The operation manual of the Embedded DVR

2013.9

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1 Precautions

The following is about the usage of DVR, the prevention of danger as well as preventing property from loss. Please be sure to comply.

1、Please placed DVRs within the permissible range of temperature and humidity.
2、Don’t install the DVRs in a damp, dust or soot place.
3、Place the product horizontally and pay attention to preventing it from falling.
4、Installed it in a well-ventilated place and do not block the vent.
5、Don’t place containers filled with liquid on the device.
6、Don’t place other equipments on the product.
7、Don’t disassemble this product.
8、Please select the hard disk recommended by manufacturers or suitable for the requirement of the DVR.

2 Declaration

Please prevail in kind. The manual is for reference only.
This manual may contain inaccurate data or printing error.
The products described in this manual may be updated at any time.
Screenshots of the manual is not in a machine and only for display.
If in doubt, obtaining a copy of the latest procedure or the additional document, please contact with the company's after-sales department.

3 Product Introduction

3.1 Product Overview

This product is designed specifically for the field of video surveillance and adopts H.264 video compression, hard disk recording, TCP/IP transmission and a Linux based OS in addition to some of the advanced technology in the information technology industry. This enables a more stable, reliable and high picture quality. The products support synchronized video, audio recording, playback, monitoring as well as the synchronization of audio and video. Besides, the products support advanced control technology and strong network data transmission capacity.

3.2 Feature

Real-time monitoring
Have a composite video signal interface and support TV, VGA or HDMI output simultaneously.
Compression function
Use H.264 video compression standard and G.711 audio compression standard and have high definition, low code rate of the video coding and the storage.
Recording function
Support timing, linkage of alarm, motion detection, SATA hard and local hard disks , DVR data backup

and network backup.

Video playback function

Achieve searching videos by a variety of conditions, playback in local and network. Support multiple videos playback, fast playing, slow playing and frame-by-frame playback. Video playback can display the exact time of the incident. Provide timeline retrieving page for quick searching.

Camera control and alarm

Be controlled by the remote camera and equip many alarm input interfaces. Be connected to various types of alarm devices. Dynamic detection, video loss, video block, multiple alarm output and scene lighting control can be realized.

Communication Interface

Equip USB 2.0 high-speed interface or ESATA interface and allow many backup devices. Equip standard Ethernet interface. Plug and play in a variety of network conditions,

Network functions

Support TCP / IP, UDP, RTP / RTSP, DHCP, PPPOE, DDNS, NTP etc. Support real-time network monitoring, video playback, control and management functions; built-in WEB Server, you can directly access through a browser.

Mode of operation

You can operate by the front panel or a mouse. Equip a simple, intuitive graphical interface.

3.3 Installation

3.3.1 Unpacking Inspection

When you receive the product, check according to the packing list in the box.

3.3.2 Installation Preparation

Preparation

Prepare a Cross Screwdriver.

Note: HDD quantity by each model’s specifications shall be final, HDD capacity up to 64 TB.

Steps

Remove the metal top cover by removing two screws from the sides of the cover.

Place the hard disks on a flat table and tighten the screws.

Connect the power and the data lines to the HDD.

Reinstall the metal top cover and tighten the screws.

Caution

Only use the HDD specified by the manufacturer.

The HDD will be formatted automatically during booting and it may cause data loss.

The total duration of video data saved is decided by the HDD’s capability and the DVR’s parameters (recording setup, encoding setup). Please refer to the form in chapter 7.2.

3.3.3 Wiring Installation

Preparing for installation

Prepare a camera, a display, video lines, network cables, a mouse, and kinds of power cord.

Installation Steps

Make the DVR in a horizontal position and connect the camera to the video input interface in the rear panel.

Connect the displayer to the video output.

Connect the network to the RJ45 interface.

Connect the Mouse to the USB interface and the USB interfaces in the front or rear panel both work.

Connect the power.

Caution

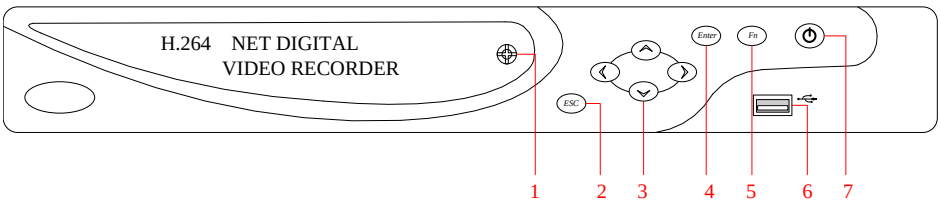
For an external alarm device or a PTZ, please refer to the relevant instructions.

Connect the power line after all lines connected correctly.

Pay attention to the power parameters.

3.4 Front panel

3.4.1 6000/6100-AS Series

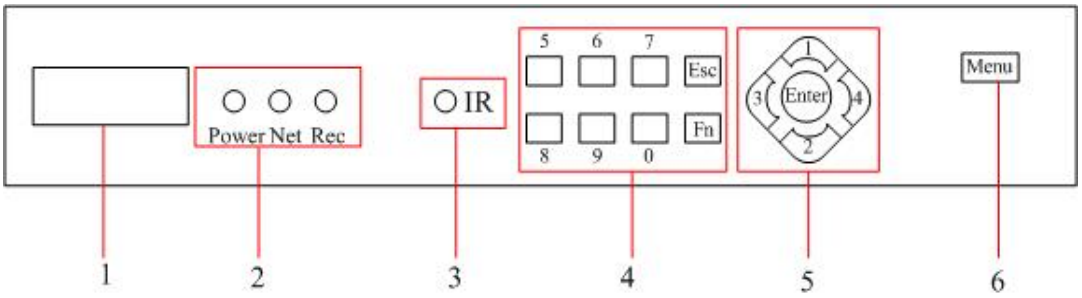


6000/6100-AS series Front Panel Function

6000/6100-AS series Front panel Description

Index	Name	Function
1	IR	Receive the remote control signal.
2	Esc	Back to the previous menu or cancel the operation. Back to the real-time view when playback records.
3	Direction	Up/Down: Move up or down. Change the settings and increase or decrease the digital. Left/Right: Control the playback control bar of the records.
4	Enter	Confirm the operations. Jump to the default button. Enter the menu.
5	Fn	The button displays PTZ control and image color when in the state of the single-screen monitoring. Simultaneously press the Fn key and the direction key to complete the settings with the dynamic monitoring area. Press the Fn key to empty all contents of the edit box. Press the key to switch among English, Chinese and figure. Special with the function of each menu page prompts.
6	USB	Connect the mouse and HDD.
7	On/off	Power on/off.

3.4.2 6000/6100-BS Series

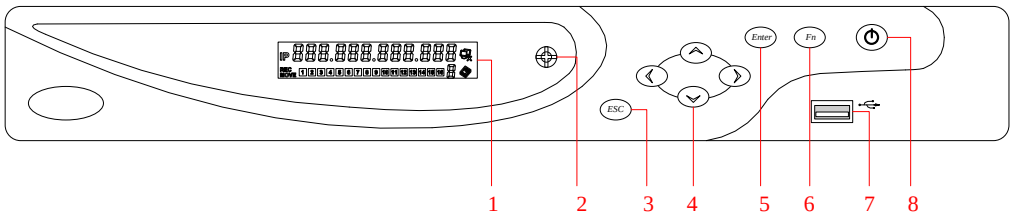


6000/6100-BS series Front Panel Function

6000/6100-BS series Front panel Description

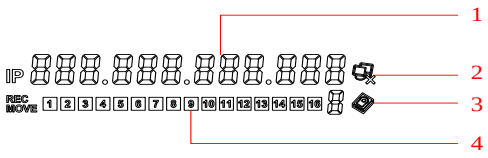
Index	Name	Function
1	Sign	Logo
2	Indicator	Power indicator, Network indicator, Recorder indicator
3	IR	Receive the remote control signal.
4	Function keys	Function keys, numeric keys and the exiting key.
5	Direction	Up/Down: Move up or down.Change the settings and increase or decrease the digital. Left/Right: Control the playback control bar of the records.
6	Menu	The function keys of the main menu.

3.4.3 7000/7100 Series

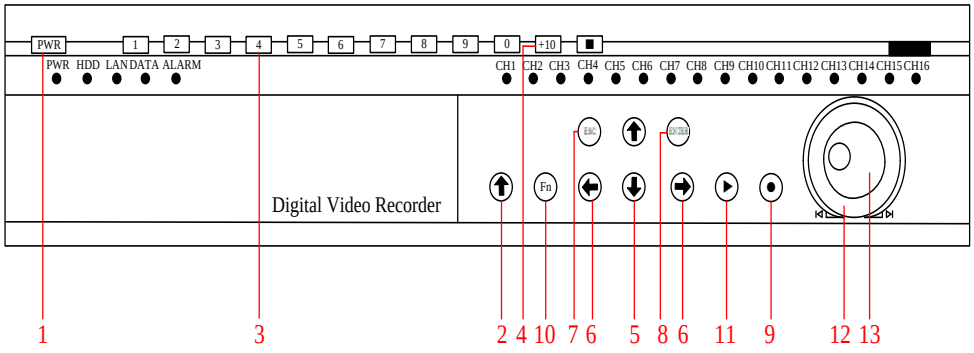


7000/7100 series Front Panel Function

7000/7100 series Front panel Description

Index	Name	Function
1	LCD	 1、IP address of, clock, the external alarm channel, error status code of the machine, remote address, internal temperature of the chassis is displayed. 2、Network Connection status. 3、HDD status and numbers. “E” and flash label refer HDD error. 4、Cycling display the recording status and motion detection (distinguish by “REC” and “MOVE”).
2	IR	Receive the remote control signal.
3	Esc	Back to previous menu, operation cancel; Back to live view when playing back records.
4	Direction	Up/Down: Move up or down. Change the settings and increase or decrease the digital. Left/Right: Control the playback control bar of the records.
5	Enter	Confirm the operations. Jump to the default button. Enter the menu.
6	Fn	The button displays PTZ control and image color when in the state of the single-screen monitoring. Simultaneously press the Fn key and the direction key to complete the settings with the dynamic monitoring area. Press the Fn key to empty all contents of the edit box. Press the key to switch among English, Chinese and figure. Special with the function of each menu page prompts.
7	USB	Connect the mouse and HDD.
8	ON/OFF	Power on/off.

8000-AU series



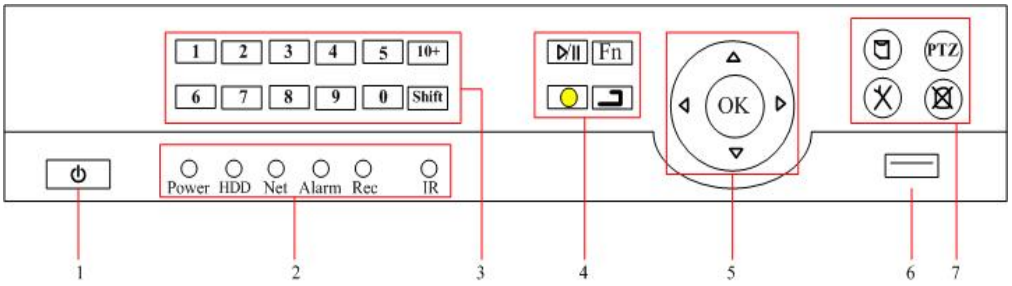
8000-AU series Front Panel Function

8000-AU series Front panel Description

Sequence	Title	Icon	Function
1	ON/OFF	Power	Turn on by short press.
			Turn off by 3 seconds press.
2	↑	shift	Display output switching.
			Text box is selected, a continuous press can switch numbers, upper case, lower case input.
			TAB switch.
			PTZ control to switch different sub-pages when PTZ control.
3	Num Lock	1~9	Digital input（digital input mode）.
			Text input（Text input mode）.
			Image switch（single screen mode）.
4	10+Num Lock	+10	Number (≥10) input: Press this key then press each number, resulting in 10 to 19 input.
5	Up and Down	↑↓	The current active control switch can jump up or down.
			Active pull-down menu to switch the drop-down box options.
			Activate the digital input box increase or decrease the number.
			Activate checkbox to change status.
			Activate the text input box and step down carry and abdication.
			Activate the control box to move the slider.
			Activate display window to select the previous channel, next channel.
			Direction control under PTZ control mode.
6	Left and Right	←→	Switch current active control, can left or right jump.
7	Cancel/Exit	ESC	Close the control window or back to the previous menu.
8	Enter	ENTER	Operation confirmation.
			Jump to 【Confirm】for selection.
			Enter into the Main Menu.
9	Record	●	Manually start/Stop recording.
			Enter into the Preset Positions when PTZ control.
10	Auxiliary	Fn	Single screen view: PTZ control and image color.
			Setup motion detection area: “Fn” with direction keys.
			Clear function：press “Fn” to clear a character before caret in digital input and text input mode.
			Full screen mode switch when activate display window.

			TAB switch.
			Child pages switching under PTZ control.
			Special cooperation.
			Long press to switch VGA&HDMI show resolution ratio.
11	Play/Pause	▶	Play. Come to normal when rewind. Resume playback when pause. Enter into inquiry menu when real-time monitoring. PTZ control: Zoom +.
12	Outside the shuttle		PTZ control: Aperture, CW +, CCW -.
			Play control: clockwise the previous, counter clockwise the next.
13	In shuttle		PTZ control: Zoom, CW +, CCW -.

3.4.5 8000-AH series

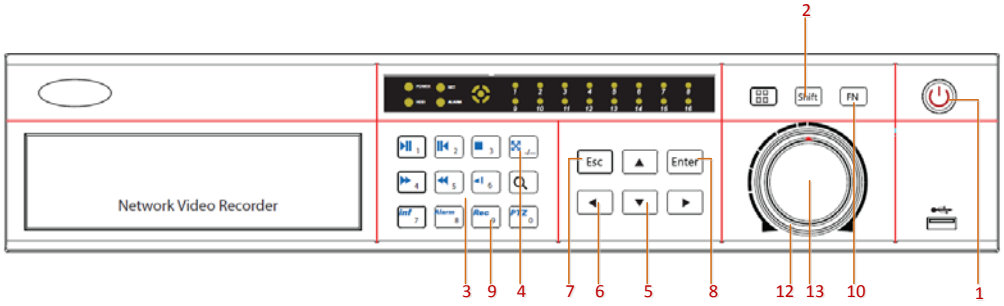


8000-AH series Front Panel Function

8000-AU series Front panel Description

Index	Name	Function
1	ON/OFF	Power on/off.
2	Indicator	Power indicator, HDD status indicator, Net indicator, Alarm indicator, Recorder indicator,Alarm, IR: Receive remote control signal.
3	NUM	The corresponding number key
4	Function keys	Play / Pause, and video playback keys and function keys and return key
5	Arrow keys	Up/Down/Left/Right, OK: Enter keys
6	USB	Connect with mouse, HDD, etc.
7	The main control keys	Backup button, the main menu button, PTZ control keys, function keys.

3.4.6 9000/9000E Series



9000 series Front Panel

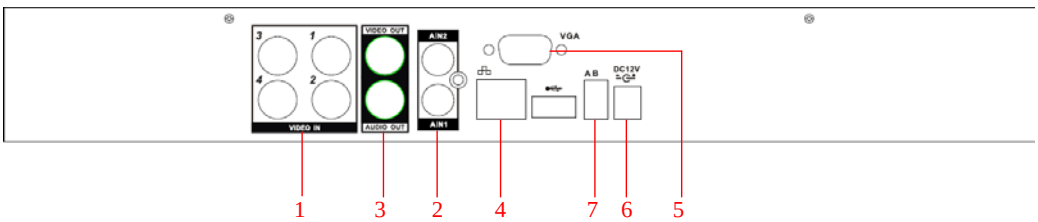
9000 series Front Panel Description

Sequence	Title	Icon	Function
1	ON/OFF	Power	Turn on by short press.
			Turn off by 3 seconds press.
2	Shift	↑	Display output switching.
			Text box is selected, a continuous press can switch numbers, upper case, lower case input.
			TAB switch.
			PTZ control to switch different sub-pages when PTZ control.
3	Num Lock	1~9	Digital input（digital input mode）.
			Text input（Text input mode）.
			Image switch（single screen mode）.
4	10+Num Lock	+10	Number (≥10) input: Press this key then press each number, resulting in 10 to 19 input.
5	Up and Down	↑↓	The current active control switch can jump up or down.
			Active pull-down menu to switch the drop-down box options.
			Activate the digital input box increase or decrease the number.
			Activate checkbox to change status.
			Activate the text input box and step down carry and abdication.
			Activate the control box to move the slider.
			Activate display window to select the previous channel, next channel.
			Direction control under PTZ control mode.
6	Left and Right	←→	Switch current active control, can left or right jump.

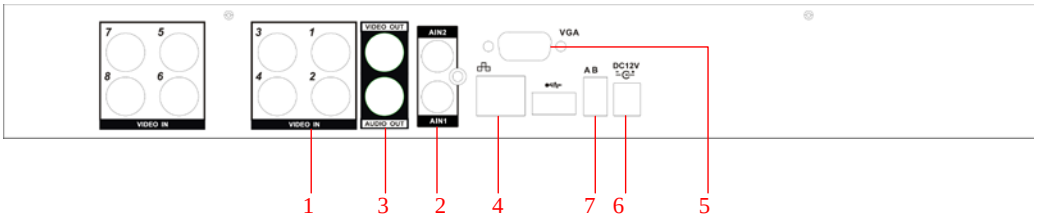
7	Cancel/Exit	ESC	Close the control window or back to the previous menu.
8	Enter	ENTER	Operation confirmation.
			Jump to 【Confirm】for selection.
			Enter into the Main Menu.
9	Record	●	Manually start/Stop recording.
			Enter into the Preset Positions when PTZ control.
10	Auxiliary	Fn	Single screen view: PTZ control and image color.
			Setup motion detection area: “Fn” with direction keys.
			Clear function：Press “Fn” to clear a character before caret in digital input and text input mode.
			Full screen mode switch when activate display window.
			TAB switch.
			Child pages switching under PTZ control.
			Special cooperation.
			Long press to switch VGA&HDMI show resolution ratio.
11	Play/Pause	▶	Play.
			Come to normal when rewind.
			Resume playback when pause.
			Enter into inquiry menu when real-time monitoring.
			PTZ control: Zoom +.
12	Outside the shuttle		PTZ control: Aperture, CW +, CCW -.
			Play control: clockwise the previous, counter clockwise the next.
13	In shuttle		PTZ control: Zoom, CW +, CCW -.

3.5 The rear panel

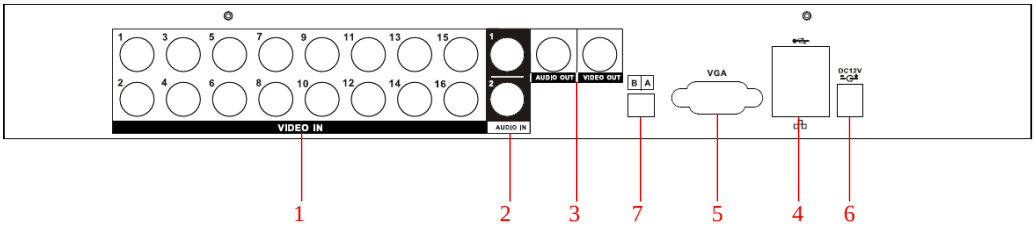
3.5.1 6000-AS Series



6004-AS Rear Panel Interface



6008-AS Rear Panel Interface

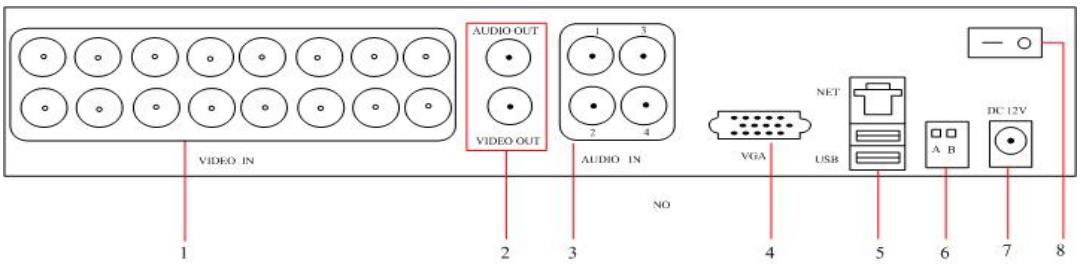


6016-AS Rear Panel Interface

6000-AS Rare Panel function

Index	Name	Description
1	Video input	Composite video signal（CVBS）input interface.
2	Audio input	Audio input interface.
3	Video/Audio output	Composite video/audio signal（CVBS）output interface.
4	Net	RJ-45.
5	VGA	VGA output interface.
6	Power input	DC 12V.
7	Ports	RS-485.

3.5.2 6000-BS Series



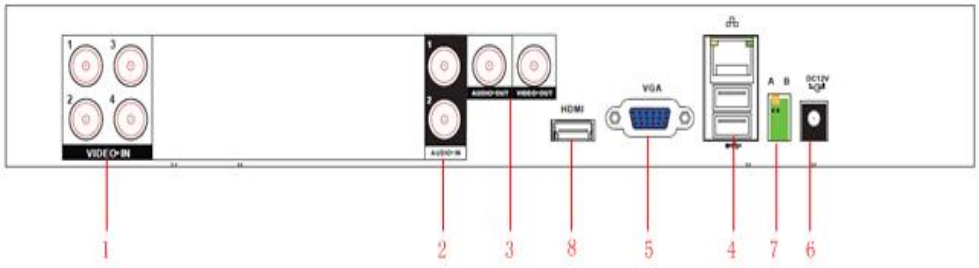
6000-BS Rear Panel Interface

6000-BS Rare Panel function

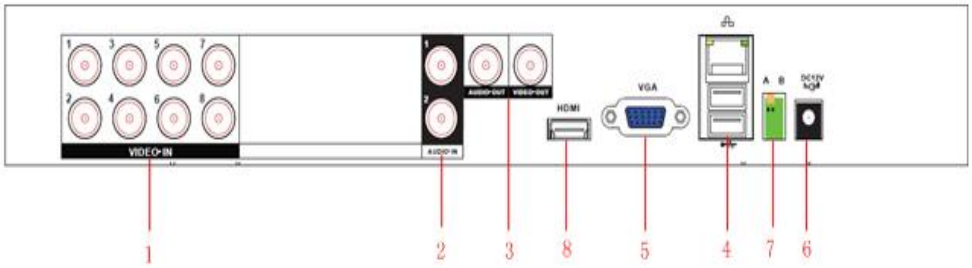
Index	Name	Description
1	Video input	Composite video signal（CVBS）input interface.
2	Video/Audio output	Composite video/audio signal（CVBS）output interface.
3	Audio output	Audio input interface.

4	VGA	VGA output interface.
5	NET,USB	RJ-45. USB
6	Ports	RS-485.
7	Power input	DC 12V.
8	switch	power switch

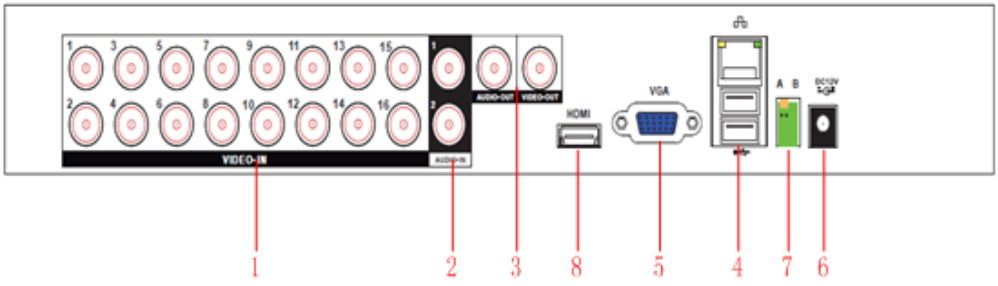
3.5.3 6100 Series



6104 series Rear Panel Interface



6108 series Rear Panel Interface



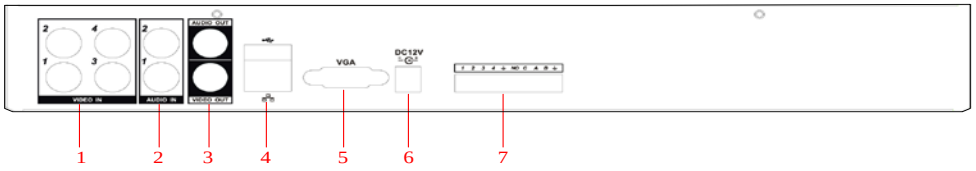
6116 series Rear Panel Interface

6100 Rare Panel function

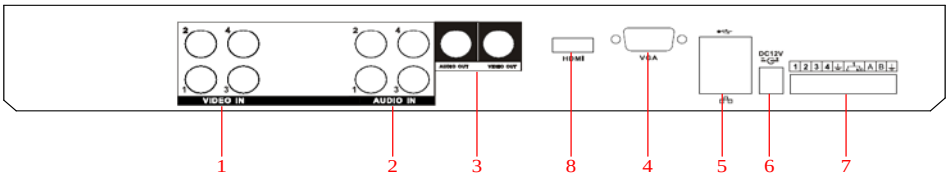
Index	Name	Description
1	The video input	The input interface of CVBS
2	The video/audio output	The input interface of the audio signal

3	The audio output	The output interface of the audio signal and CVBS
4	The network interface	The network interface of RJ-45 and two USB ports
5	The VGA interface	The output interface of the VGA video signal
6	The power	12V DC power
7	the terminals	The interface of the alarm input, he alarm output and RS-485
8	The HDMI interface	The output interface of the HDMI video signal

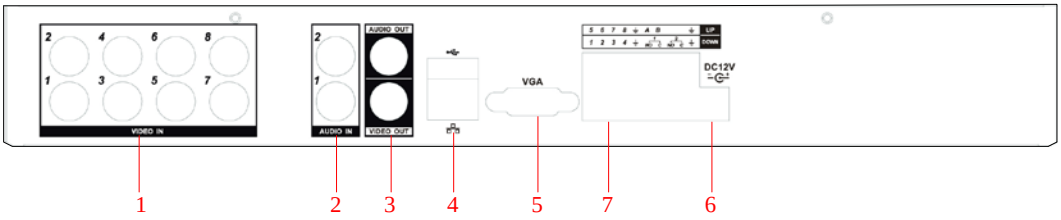
3.5.4 7000 Series



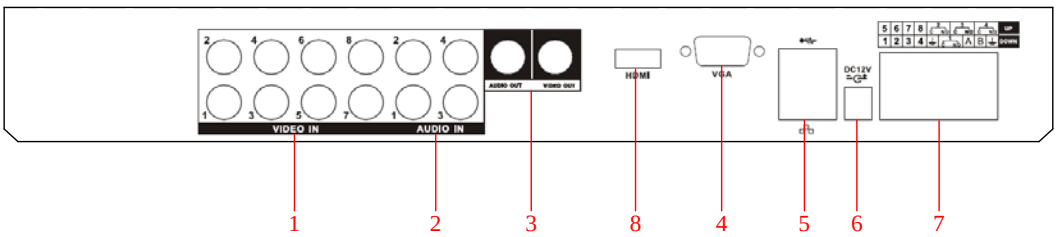
7004 Rear Panel Interface



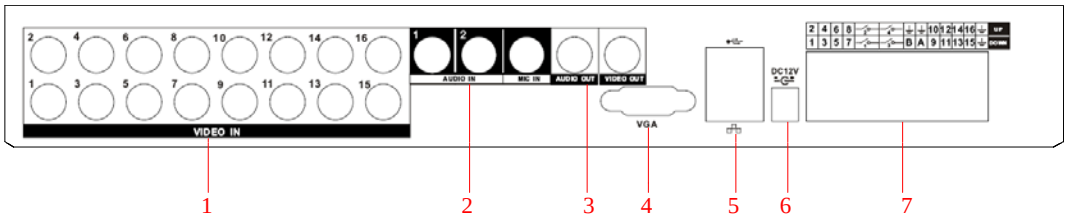
7004-H Rear Panel Interface



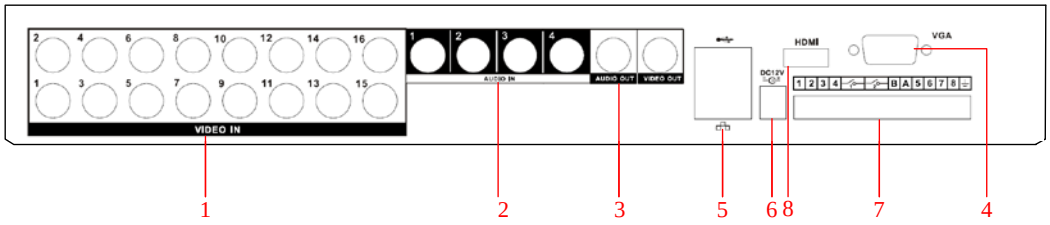
7008 Rear Panel Interface



7008-H Rear Panel Interface



7016 Rear Panel Interface

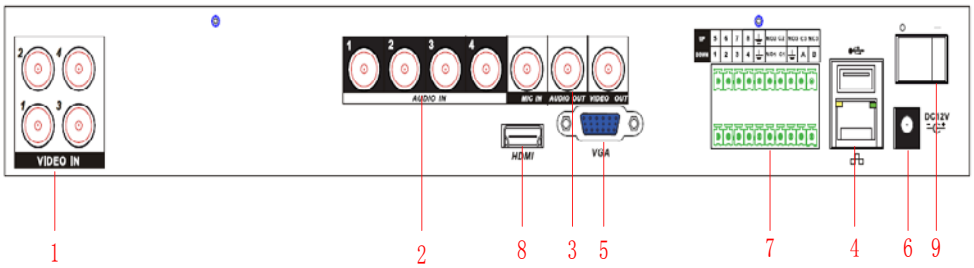


7016-H plus Rear Panel Interface

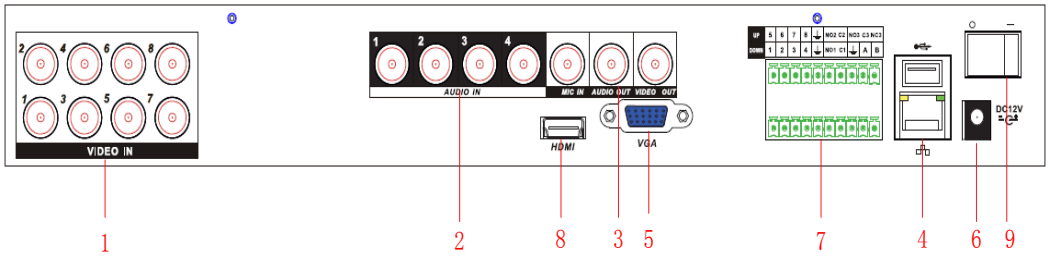
7000 Rare Panel function

Index	Name	Description
1	Video input	Composite video signal（CVBS）input interface.
2	Audio input	Audio input interface.
3	Video/Audio output	Composite video/audio signal（CVBS）output interface.
4	The Network interface	RJ-45
5	VGA	VGA output interface.
6	Power input	DC 12V.
7	Ports	Alarm input/output, RS-485 interface.
8	HDMI	HDMI output interface.

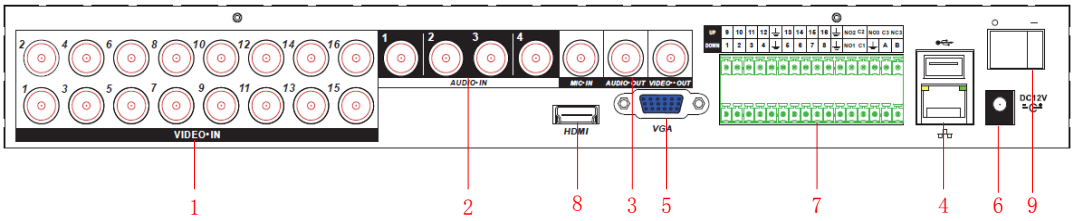
3.5.5 7100 Series



7104E Rear Panel Interface



7108E Rear Panel Interface

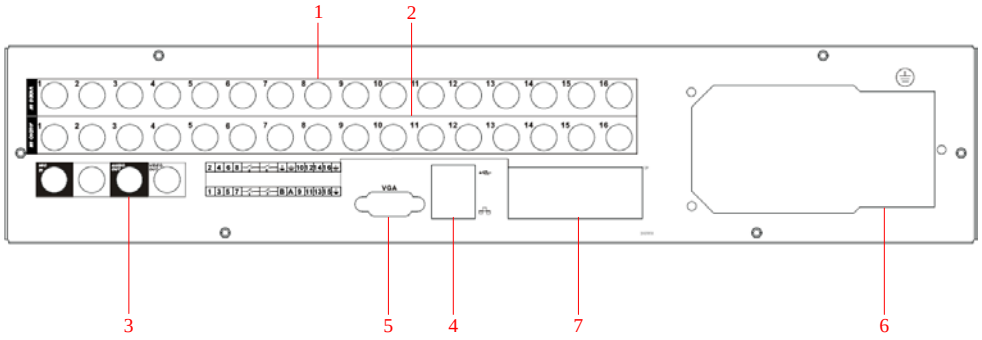


7100E Rear Panel Interface

7100 series Rare Panel function

Index	Name	Description
1	Video input	The input interface of CVBS
2	Audio input	The input interface of the audio signal
3	Video/Audio output	The output interface of the audio signal and CVBS
4	The network interface The USD interface	The RJ-45network interface The USB interface
5	The VGA interface	The output interface of the VGA video signal
6	The power	12V DC power
7	the terminals	The interface of the alarm input, the alarm output and RS-485
8	The HDMI interface	The output interface of the HDMI video signal
9	The power switch	The power switch

3.5.6 8000-AU Series

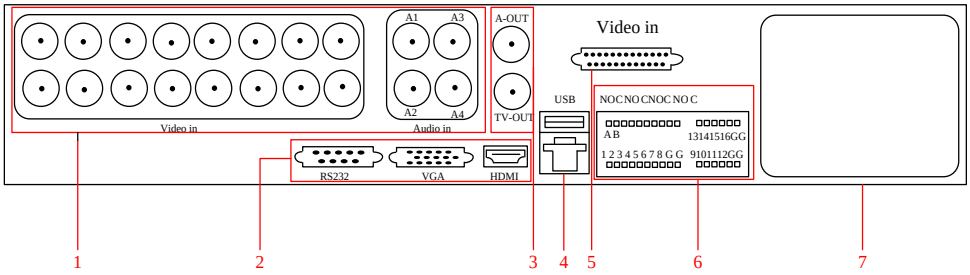


8000-AU series Rear Panel Interface

8000-AU Rare Panel PORT function

Index	Name	Description
1	Video input	Composite video signal（CVBS）input interface.
2	Audio input	Audio input interface.
3	Video/Audio output	Composite video/audio signal（CVBS）output interface.
4	Net	RJ-45.
5	VGA	The VGA output interface
6	Power input	220V AC power, the switch control of the host
7	Ports	The Alarm input/output, the RS-485 interface
8	HDMI	The HDMI output interface.

3.5.7 8000-AH Series



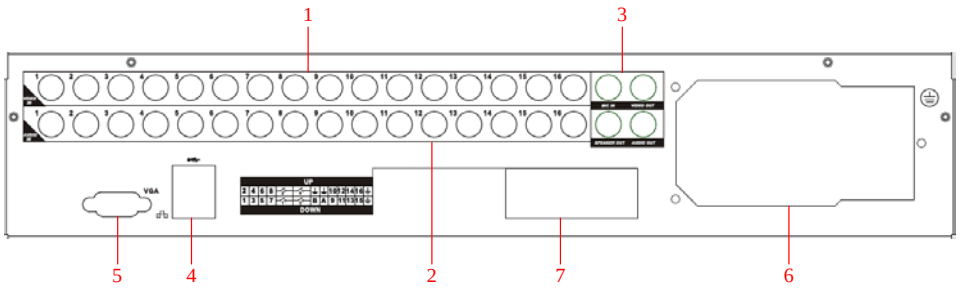
8000-AH series Rear Panel Interface

8000-AH Rare Panel PORT function

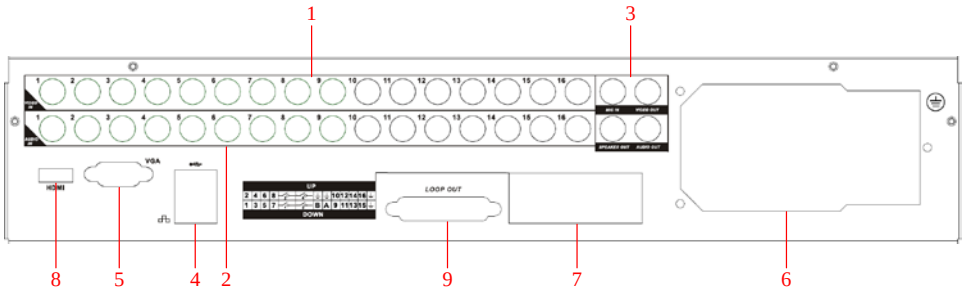
Index	Name	Description
1	Video/Audio input	Composite video/audio signal（CVBS）input interface.
2	Output	RS232 output\VGA output interface, HDMI output interface.
3	Video/Audio	Composite video/audio signal（CVBS）output interface.

	output	
4	USB/NET	USB, RJ45
5	Video input/Loop out	Composite video signal（CVBS）input interface, Loop out
6	Ports	Alarm input/output, RS-485 interface.
7	Power input	AC 220V

3.5.8 9000 Series



9000 series Rear Panel Interface

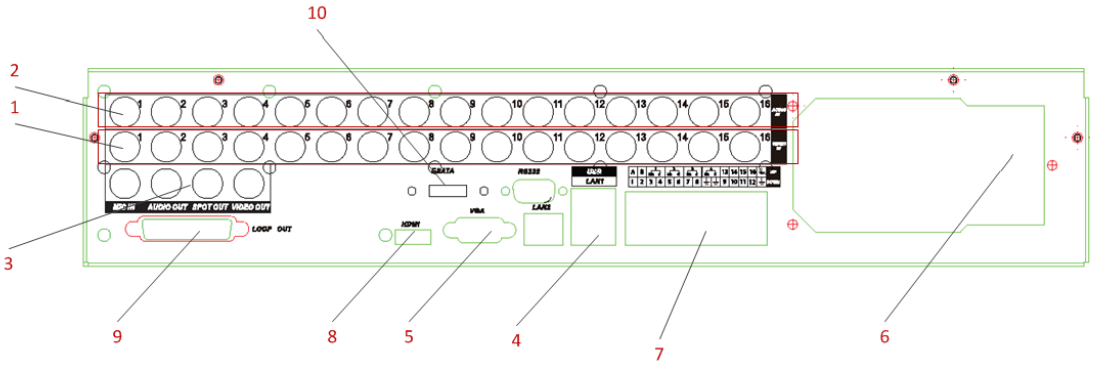


9000 WITH LOOP AND HDMI series Rear Panel Interface

9000 Rare Panel function

Index	Name	Description
1	Video input	Composite video signal（CVBS）input interface.
2	Audio input	Audio input interface.
3	Video/Audio output	Composite video/audio signal（CVBS）output interface.
4	Net	RJ-45.
5	VGA	VGA output interface.
6	Power input	220V AC power, the switch control of the host
7	Ports	Alarm input/output, RS-485 interface.
8	HDMI	HDMI output interface.
9	Loop	Connect the input video out to the other devices.

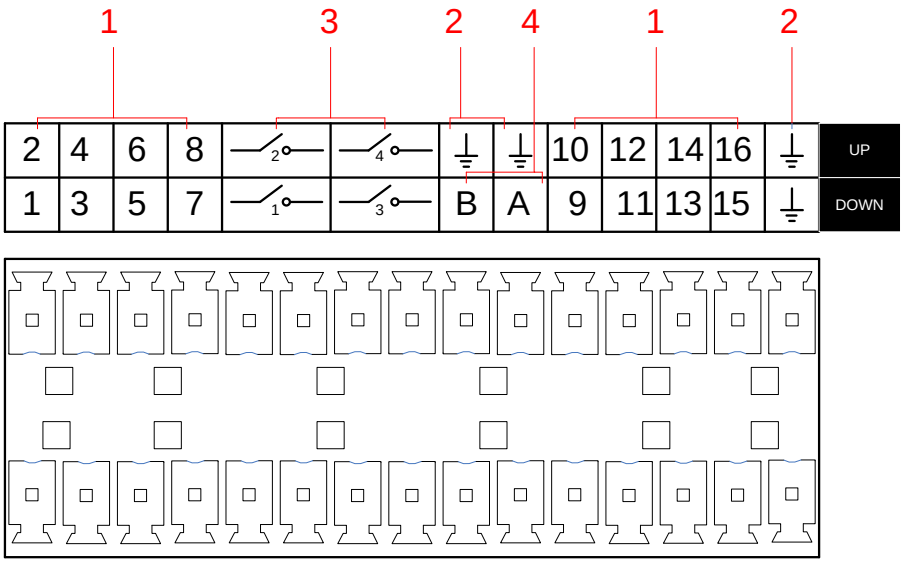
3.5.9 9000E Series



9000E Rare Panel function

Index	Name	Description
1	Video input	Composite video signal（CVBS）input interface.
2	Audio input	Audio input interface.
3	Video/Audio output	Composite video/audio signal（CVBS）output interface.
4	Net	RJ-45.
5	VGA	VGA output interface.
6	Power input	220V AC power, the switch control of the host
7	Ports	Alarm input/output, RS-485 interface.
8	HDMI	HDMI output interface.
9	Loop	Connect the input video out to the other devices.
10	Esata	Connect Esata device

3.6 Other External Interface



7016 I/O Interface

3.6.1 The Alarm Input

The alarm input type can be normally open type or normally closed type.
The alarm detector's com port is in parallel with the ground port and connected with the ground port of the DVR.
The NC/NO port should be connected to the DVR.
The alarm detector adopts the external and grounded with the DVR.

3.6.2 The Alarm Output

The output of the device uses the relay output. In order to avoid overloading and damaging the host, please refer to the relevant relay parameters.

Relay Parameters

Contact Material	Silver	
Electric property	Maximum switching power	240VA，48W
	Maximum switching voltage	125VAC，60VDC
	Maximum	2A

3.6.3 The Connection of the P/T/Z

The A, B interface of the PTZ decoder connect with A and B interfaces of the DVR's RS-485. 120Ω resistors should be paralleled in the remote A, B lines to reduce the distortion of the signal if a larger number of PTZs are connected.

3.7 The Mouse

In addition to front panel keys and remote control menu, the user can use a to control. Insert the mouse interface into the USB interface.

Left Click

Left click to enter the right menu or the main interface.

Left click to access the menu option.

Perform the operations instructions of the control.

Change the state of the checkbox or dynamic detection blocks.

Pop up a drop-down list when left click.

In the state of PTZ 3D control, left drag the area to achieve regional enlarging or reducing.

Double Click

Double click to play video.

Double click to make the screen full or exit.

Right Click

Right click to pop up the right menu in the real-time monitoring screen.

Exit the current interface without saving.

Turning Wheel

Turn the mouse wheel to change the value in the digital box.

Switch the option of the combination box.

Scroll back and forth to achieve the zoom function of channels and PTZ 3D.

Mouse Move

Select controls of the current coordinates to move.

Mouse Drag

Select area to detect.

Select area to shelter.

Select zooming function of PTZ control.

3.8 The Input Method

In the input box, you can select figures, symbols, English capitalization and the input of Chinese. Click the mouse to complete the input."← "represents the backspace and "_ "represents a space.

The input interface of English

figures

The input interface of Chinese

3.9 Power On/Off

3.9.1 Power On

Install a DVR correctly and connect power. when the light is on, the DVR will boot automatically. Different types have different booting status. Refer to the front panel Introductions.

DVRs will detect the hardware when power on and the process will last about 20 Seconds. After the detection, DVRs sound as “Buzzing” and enter a multi-screen real-time video surveillance status.

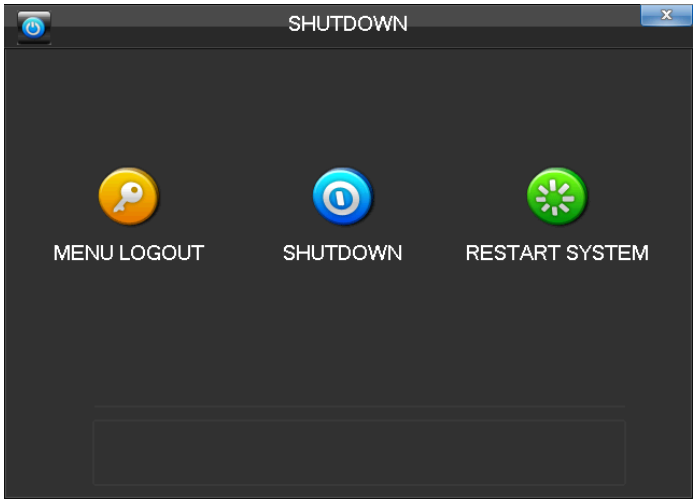
If the hard disk boot is not connected, the following interface will pop up.

The real-time view

Note: Power supply has to match with DVR, any other substitutes are not allowed.

3.9.2 Power Off

【Main Menu】→【shutdown】.



Note: Change HDD after close the device.

3.9.3 Power recovery

Reboot after an outage or forceful shutdown, DVR will save the record before outage and return to the normal operation mode.

3.10 Icon

3.10.1 The Screen Icons

: The channel is recording.

: The video of the channel is lost.

: Motion detection occurs.

: The channel is in monitoring and locked status.

: Adjust the size of the logo of the local audio output.

: Allow screens to round of the Tour.

3.10.2 Operation Icons

: Not selected.

: Be selected.

: The drop - down button

: Leave the interface.

: Cancel the settings.

: Set parameters.

: Save parameters

: Restore the factory settings.

: Apply current settings to the system.

: Copy current settings to other channels.

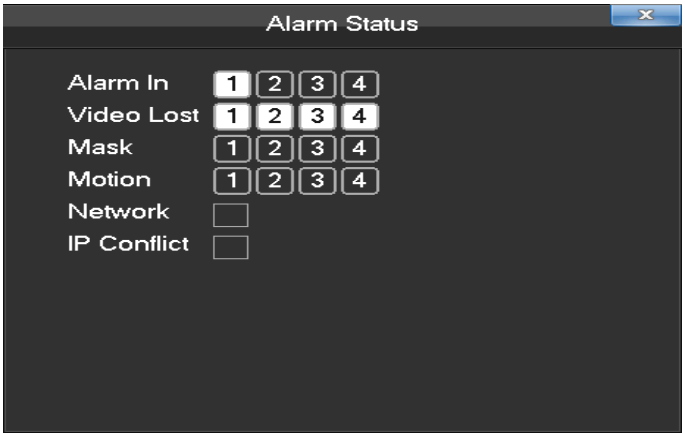
: Enter the configuration interface.

: Select and configure the processing operation triggered by video detection or alarm.

3.11 The Real-time Browser

There are a date, a channel name, a record type icon and a alarm status icon in each real-time monitoring screen. Switch screens by the front panel, a remote control or a mouse.

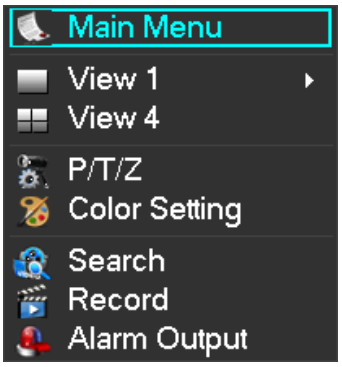
If screen prompts of external alarm, video loss, occlusion detection, dynamic detection, network connection and IP conflict is set, the following interface will pop up when the relevant alarm occurs.



4 Operations Guide

4.1 The Right-click Menu

Enter the real-time browsing interface. Click the right button and pop up a menu as shown in the figure.



The Right button menu

4.1.1 The Screen Switching

Users can choose single, four, nine and sixteen channel.

4.1.2 PTZ control

Set the PTZ protocol, the baud rate, address bits and other parameters in PTZ Configuration of Peripheral Management and then you can control the PTZ's Details by referring PTZ Functions.

4.1.3 Color setting

Adjust the specified screen (single screen) image color hue, brightness, contrast, saturation, gain and white-level parameters set two time periods according to the local environment difference between day and night for each adjustment period set, the device will automatically switch to the best video quality.

【**Period**】Two periods can be set according to ambient light during the day and night, device will automatically switch configuration time. Need to select the Enable box.

【**Hue**】Adjust according to image color cast

【**Brightness**】Visual image brightness, according to the environment, reduces or increases the brightness of the image brightness to make the image relatively clear.

【**Contrast**】Adjust image of black and white in proportion, the greater ratio, the brighter image.

【**Saturation**】Image color purity, the greater value, the more colorful images.

⚠Note: Different mode different function

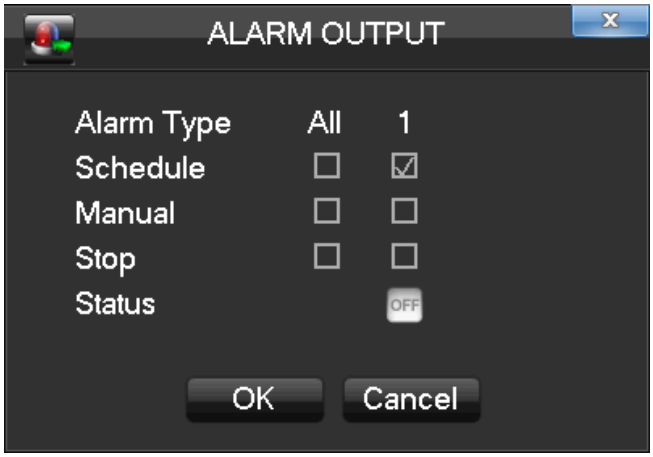
4.1.4 The Video Inquiry

Refer to 4.3.

4.1.5 Alarm output

⚠Note: the manual recording requires users have the highest priority.

In the real-time monitoring screen, right click and select [record] to enter the following interface.



【**Channels**】The number of channels that are in alarm status.

【**Schedule**】Alarm output is in control of alarm configuration.

【**Manual**】Alarm output is on and the status is active.

【**Stop**】Alarm output is off and the status is inactive.

【**Status**】The current status of alarm output.

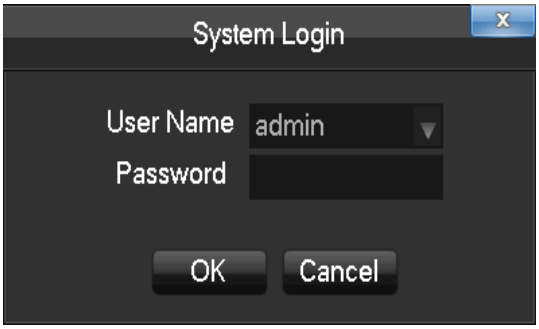
⚠Note: Some models don’t have local alarms, please refer to the products descriptions.

4.1.6 The Alarm Output

Refer to chapter 4.6.2.

4.1.7 The Main Menu

Left click in the real-time monitoring screen. Input a user name and a password.

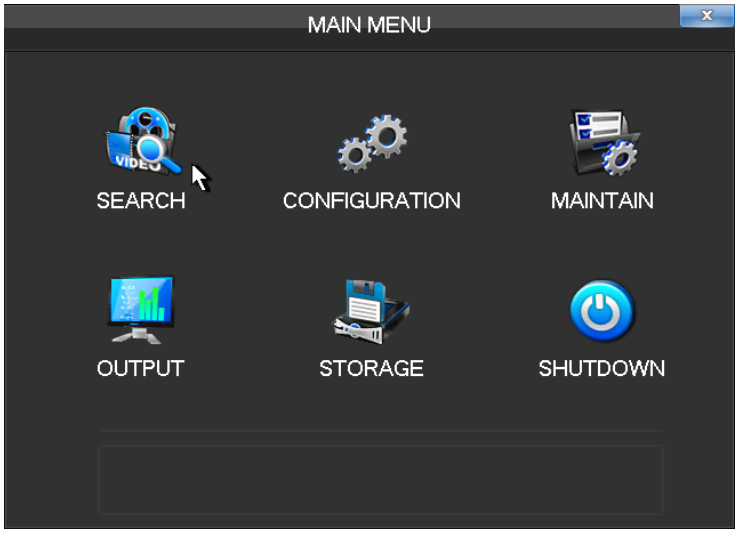


Default users

User Type	Name	Default Password
Administrator	admin	123456
User	user	123456
Hidden	default	default

⚠Note: security measures of the password: If input a wrong password for three times, the device will sound. After incorrect input for five times, the account will be locked .Please change the default password and the user name. Refer to 4.4.5 about more details.

4.2 The Introduction of the Main Menu



【**Search**】Search records by types, channels, time and playback records.

【**Configuration**】Include system, record, network, abnormity, alarm, account.

【**Storage**】HDD management and backup

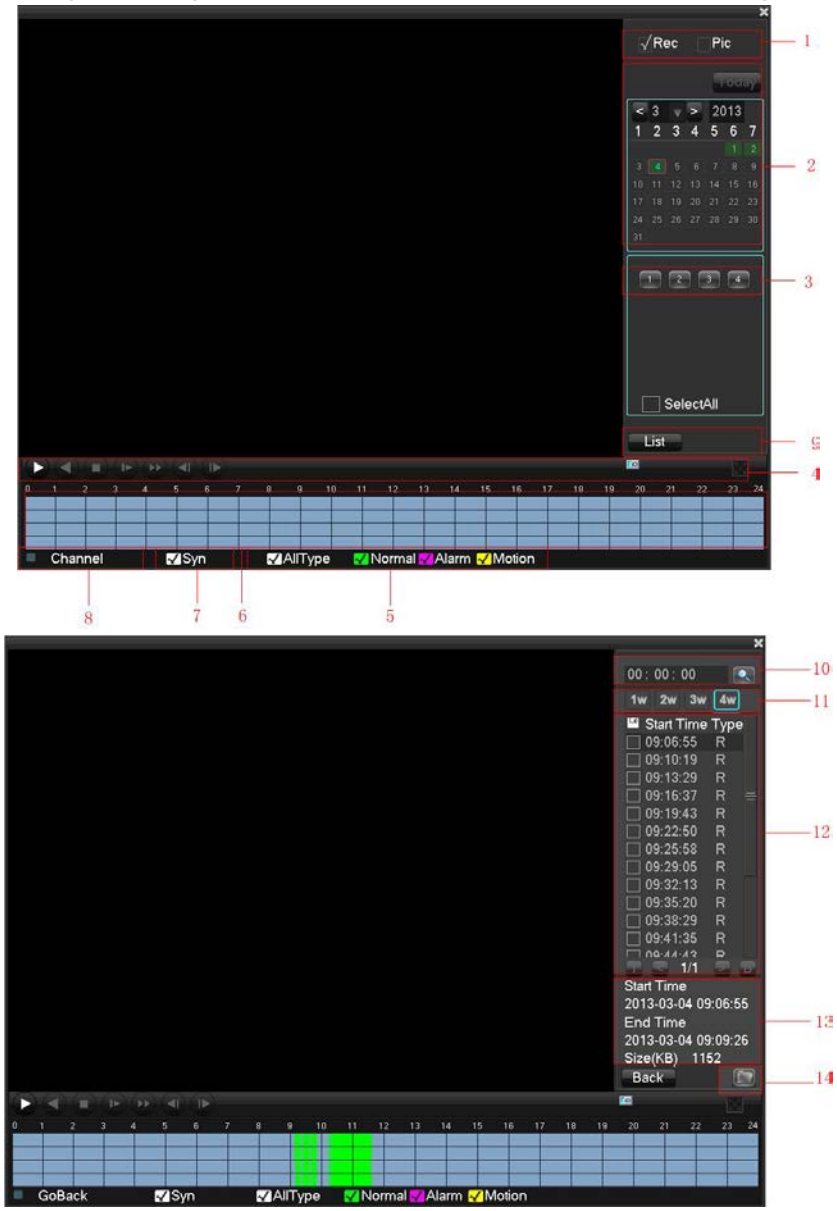
【**Output**】PTZ, alarm output, serial and display.

【**Maintain**】Display log information, version information, stream statistics, and online user and set the factory default, automatic maintenance.

【**Shutdown**】Log off the user menu, turn off the machine, restart the system, and switch user and other operations.

4.3 The Video Inquiry

In real-time monitoring screen, right click and select【search】to enter the searching interface.



Record Search interface description

Index	Type	Description
1	Record	There are video and pictures type to choose .The pictures' feature (local inquiries picture) is not yet open, so it is grayed.
2	Choose the time	Select the records' time.
3	Choose the channels	Select channels desired to query records.
4	Playback controls	It can achieve full-screen and circle playing, stopping / playing, pausing, fast playing, slow playing and the previous/next frame on a suspended state.

5	Recoding mode	Choose searched recording mode, including whole, outside alarm, motive detection, whole alarm recording.
6	The timeline of the videos	Show the status information of channels' video recording within one day by green, red, yellow.
7	Synchronization	Achieve the playback of each channel's record is of synchronization in time and of consistency in operations.
8	Status	Display status information of function keys which include the fast-forward speed, slow speed and so on.
9	List	Display the list of recording files.
10	Time inquiries	Search the records based on the starting time.
11	the channel number	Select the channel number.
12	The list of records	128 video records shows in searching list choose file and press enter or double click mouse to view record. File type: R—normal record, A—alarm record; M—motion detection record.
13	Details of the documents	Display the start time, the end time, and the size of the video file.
14	Backup	Tick " "to choose backup file in file list box, click backup button， cancel backup file ---click "√"from backup menu "√".

Playback Control

Key	Description	Remark
Video playback : Fast-forward button □	Under playback mode, pressing this key, you can get a variety of fast cycle switching speeds; fast-forward button can be used as slow-release button reverse switch key.	Actual play rate based on version
Video playback : Slow key □	Under playback mode, pressing this key, switch cyclically support a variety of slow-release rate, slow release button can be used as fast-forward button reverse switch key.	
Play/pause►/□	Play/pause switch when slow-play	
Backward: Backward key □	Single left click backward key	To play backwards and single click again to stop back run under common playback Rewind or single-frame playback, press the play button ►/□ to enter the normal playback .
Manual single frame playback	single frame playback by clicking □ ▏and ▏□□when common playback pause	

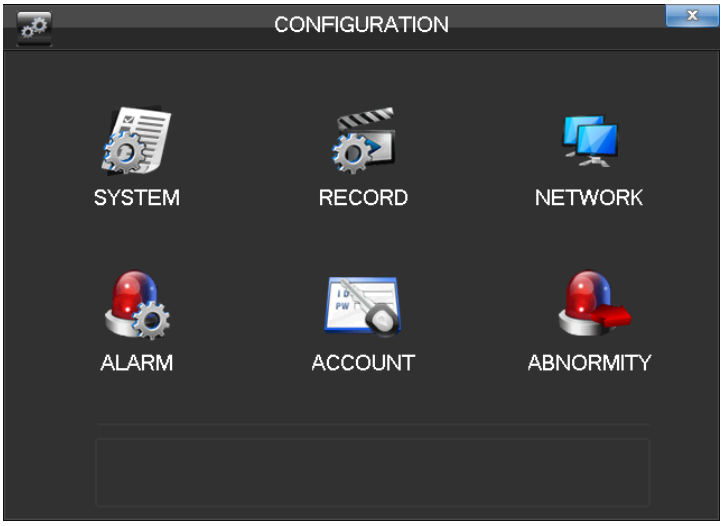
⚠Note:

The player playback control bar shows file playback speed, channel, time, playback progress and other information.

Playback speed and rewind function are related to DVR version, and please prompt on the player panel shall prevail.

4.4 Configuration

User can get into configuration through main menu.



4.4.1 System

Get into the system configuration.

【**Time**】Set the current time and save.

【**Date Format**】Modify the date format.

【**Snapshot Interval**】The snapshot interval time

【**DST**】Select the button and set the starting and ending time.

【**Time Format**】24 hr or 12 hr mode

【**Language**】 Select a language.

【**Full HDD**】When HDD is full, there are two options: “Overwrite” or “Stop recording”. If you select “Overwrite”, the DVR will overwrite the earliest files and continue recording. If you select “Stop recording”, the DVR will stop recording.

【**Pack Duration**】Set a length for each record. Default is 60 minutes.

【**DVR No.**】The default is 8.

【**Video Standard**】PAL/NTSC

【**Auto Logout**】This range is from 0 to 60 minutes.

4.4.2 Record

Local channel

【**Channel**】Select a channel.

【**Compression**】H.264

【**Resolution**】The resolution of main stream can be D1 or CIF. When channel is not the same, corresponding to different resolutions Frame rate setting range is also different. The channel extension stream resolution can support CIF or QCIF.

*Frame Rate:*1、P system: a / s -25 frames / sec.

2、N system: a / s -30 frames / sec.

【**Bit Rate**】Constant Bit rate or Variable Bitrates. Bit rate can be set in Constant Bit rate. There are 6 levels for image quality in Variable Bit rate.

【**Audio**】Choose channels to record sound or not.

【**Snapshot**】You can set the capture mode, picture size, picture quality and capture frequency.

Snapshot Mode: 1、Trigger capture: Capture picture when alarming.

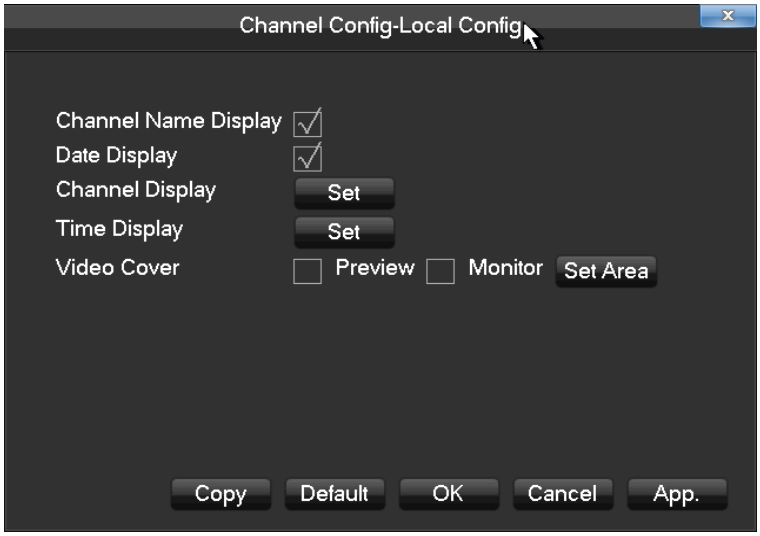
2、Timing capture: Capture the pictures in channel enabled by setting a frequency.

Picture Size: CIF.

Picture Quality: 6 levels

Snapshot Rate: Set a capture rate for the single channel.

【**More Configuration**】Enter the following interface.



【**Channel Name Display**】Choose showing the channel name in screen or not.

【**Date Display**】Show the date or not

【**Channel Display**】Drag channel title, save instantly, after quitting by right button， position of channel title would not vary in displayer or monitor ,varied position can be shown recorder and WEB interface.

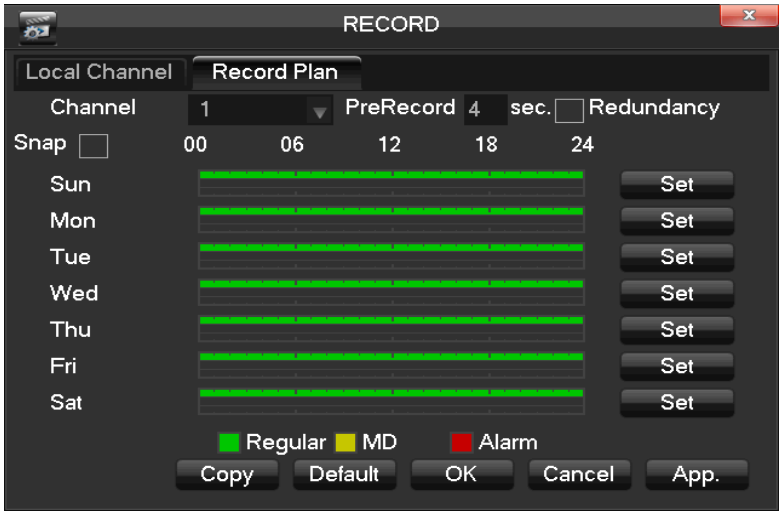
【**Time Display** 】Drag time title, save instantly, after quitting by right button, the position of time title would not vary in displayer or monitor ,varied position can be shown recorder and WEB interface.

【**Video Cover**】4 zones preview and display protect, privacy zone can adjust area.

【**Preview**】Set masking zone, masking zone shown in the screen when display， no masking zone in web and record.

【**Monitor**】Set masking zone, masking zone shown in the screen when display or record.

Record plan

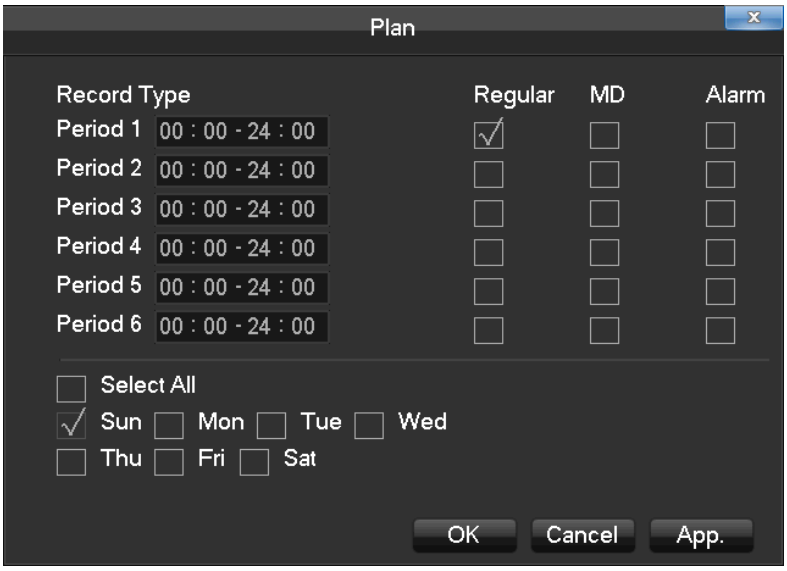


【**Copy**】Copy configuration of the current channel to other channels.

【**Channel**】Select a channel. It uses green, yellow and red to show motion detection, alarm and regular records correspondingly.

【**Copy**】Copy the settings to other channels.

Click the set button to enter the following interface.



【**Time** 】Recording time.6 periods can be set every day.

【**Normal**】Normal record.

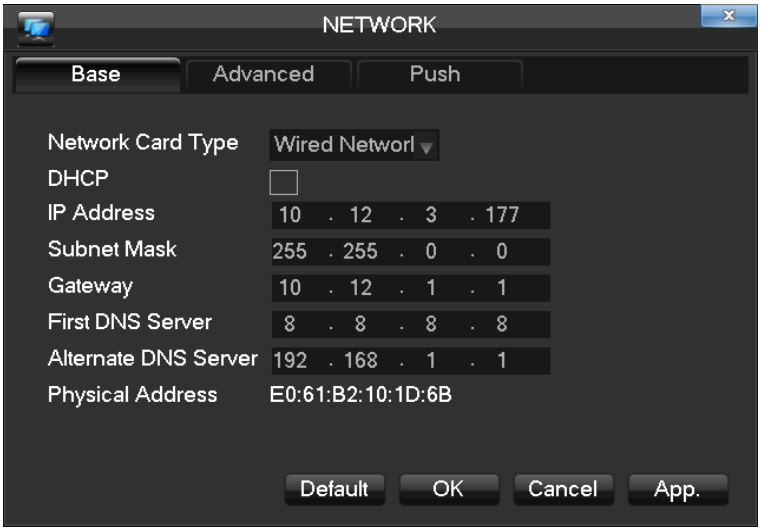
【**Moving Detection**】Moving detection.

【**Alarm**】Alarm record.

4.4.3 Network

Set the DVR network parameters in “Network” interface. The default IP address is 192.168.1.88

Base setting



【**DHCP**】Enable the DVR to obtain an IP address automatically. If this is enabled, the DVR will reboot and search for a DHCP server, and then assign a dynamic IP address. The dynamic IP address will be displayed in the menu. Enter a static IP address if there is no DHCP service available. If you are using the advanced feature PPPOE, then the IP/mask/gateway and DHCP are unable to be changed.

【**IP Address**】use（▲▼）or input numbers to modify IP, then set 【subnet mask】 and 【default gateway】

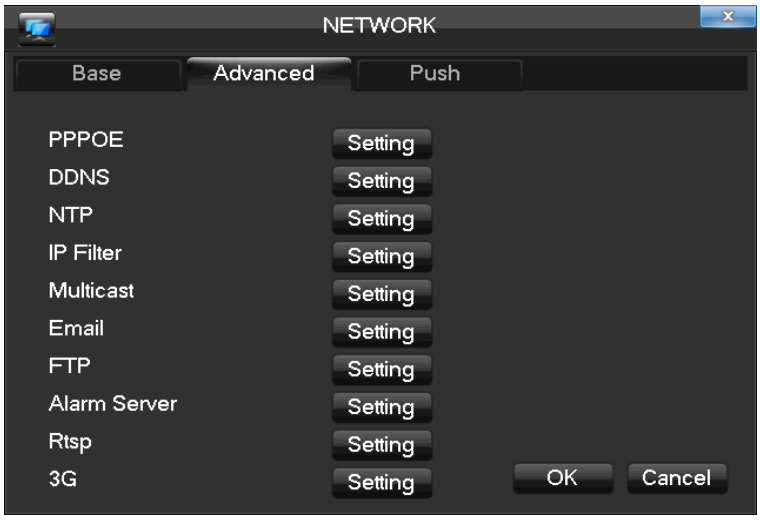
for this IP.

【**First DNS Server**】DNS server IP.

【**Alternate DNS Server**】DNS alternate IP

【**Physical Address**】physical address of current net port

Advanced



【**PPPOE**】Enable PPPOE.

Input PPPOE's username and password provided by ISP.

Operation: Using this feature, the DVR will automatically obtain a public IP address from your ISP. You can then visit the web interface of the DVR by typing this IP into Internet Explorer.

【**DDNS**】 Enable the DVR to registered a DDNS hostname, which runs on a fixed IP address web client.

Select DDNS type（NO-IP DDNS, Dyndns DDNS, FNT DDNS and so on）.

Input the registered server's IP, port, username and password.

Once completed, you can login in the Web client by inputting the domain name in IE.

Refer to 6.1 about more details.

【**NTP**】 On/Off NTP. The network time protocol allows the DVR to sync with NTP server time automatically.

Server IP: Input IP of NTP server.

Port： The default port is 123.

Update cycle: The interval time is between 1 to 65535 min.

【**IP Filter**】DVR authority management. If you enable the white list, only the filled IPs can be connected. This system supports a max of 64 IPs.

【**Multicast**】*Transfer Capability Set:* Enable the max connection and set network connection NUM, network connection NUM, transfer mode and LAN download.

Port Set: 1、TCP Port. Default: 8000.

2、HTTP Port. Default: 80.

3、UDP Port. Default: 8001.

4、UPNP Port Mapping：Enable the function and make sure UPnP feature is enabled on the router.

【**Email**】Enable the function. Set the SMTP server's port, username, password, the sender's mailbox and

receiver’s mailbox.

【**FTP**】Choose to upload records or images.

Set FTP server’s IP address and port(Default:21) .

Create a account in FileZilla Server in the computer.

Fill in the username, password and remote directory which have been created.

Set file length, channel, time for recording, type and date and so on.

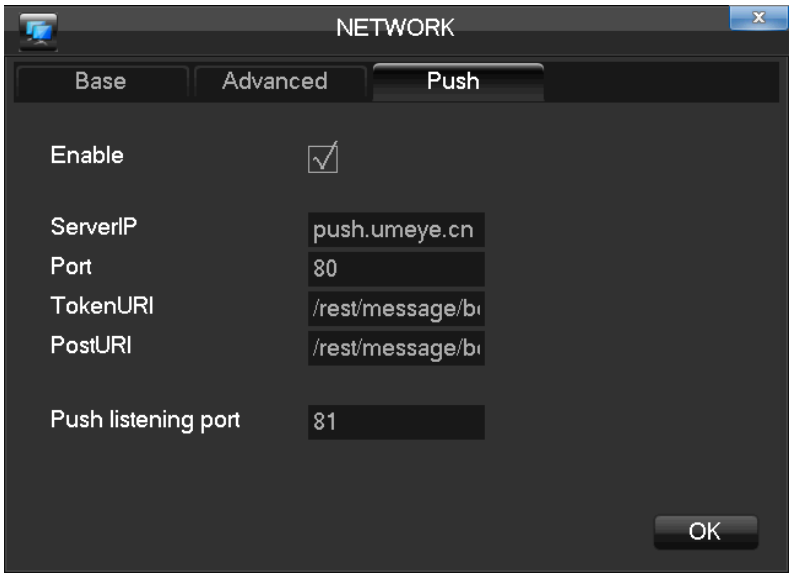
Tick alarm, motion and general records or images to upload.

【**Alarm Center**】Set the platform software’s IP ,port, and time for uploading the alarms.

【**RTSP**】The Real-time streaming protocol and the transmission of multimedia data protocol can be used to support the RTSP protocol player to play.

【**3G**】Support 3G card in dial-up network to provide remote equipments access.

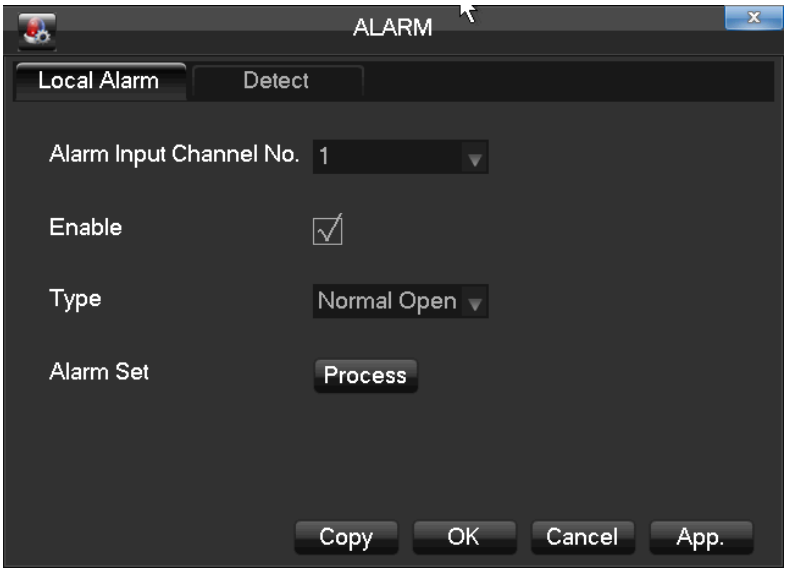
Push Service



Support the use of push service and the paid iphone mobile client. The interface is mainly used to open the push service. The current mobile client associated with the DVR, local real-time alarm information will also be sent to the phone even in the case that the mobile client is unopened.

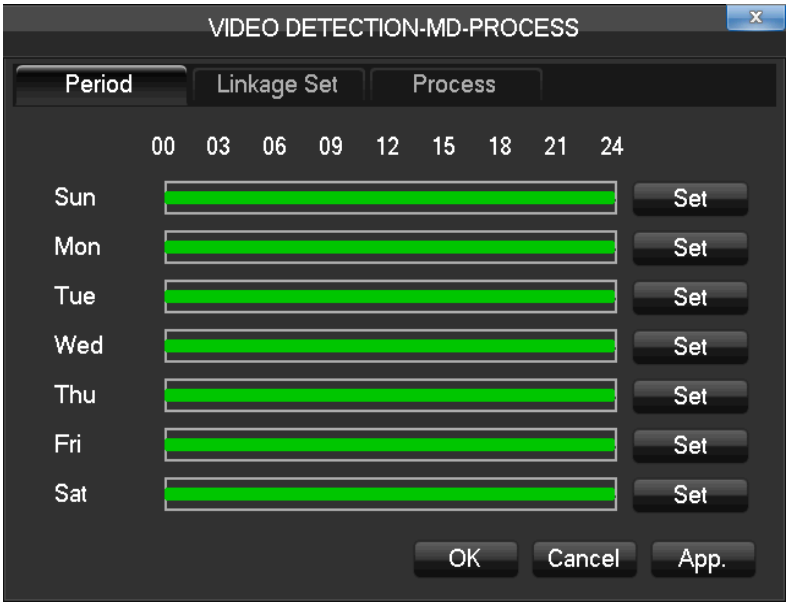
4.4.4 Alarm

Local alarm

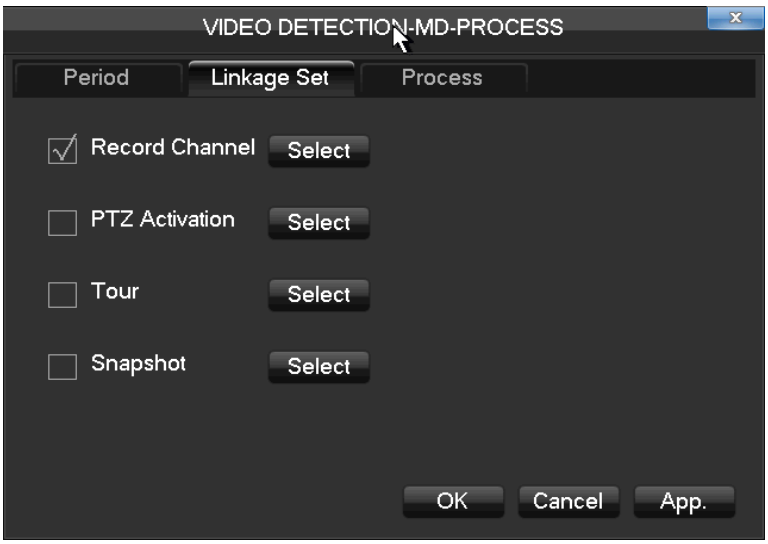


【**Copy**】Copy the configuration to another channels.

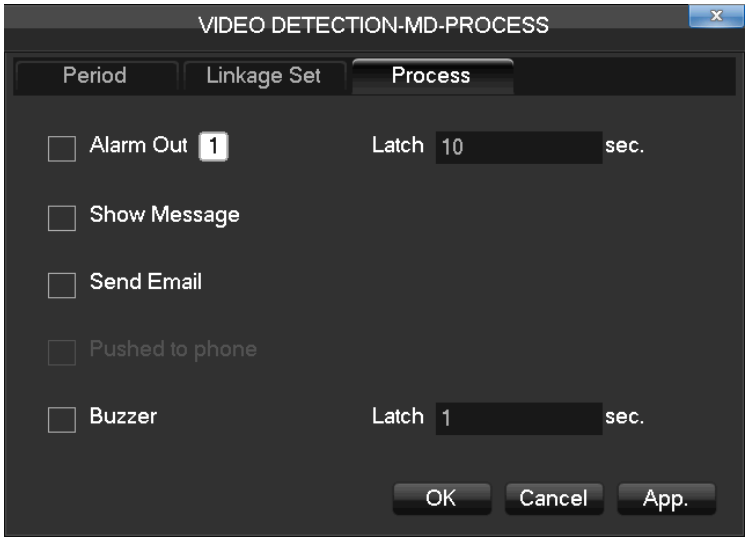
【**Process Mode**】Click to enter the following interface.



【**Period**】 Set alarm active period



【**Linkage**】 On/Off 【Record Channel】, 【PTZ】, 【Tour】, 【Snapshot】 linkage and select channel.



Enable or disable 【Alarm Out】, 【Show Message】, 【Send Email】 ,【Buzzing】and 【Pushed to phone】 The delay time is between 10 to 300 seconds.

⚠ Notice: Some models don't have local alarm.

Video detection

【Motion detection】 motion detection and alarm

【Zone setting】 22*18 =396 zones mask

【Sensibility】 6 grades

【Management】 as same as local alarm

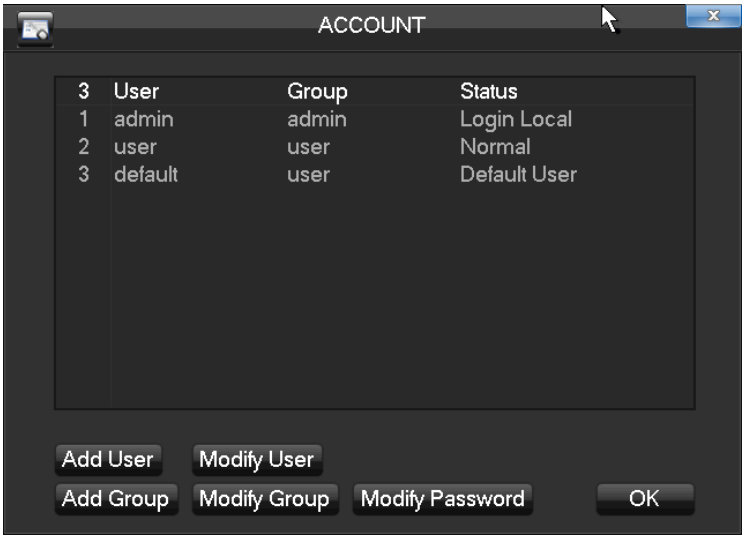
【Preview】 alarm preview

【Video lose】 detect video loses and alarm

4.4.5 Account

Note: Group and user names can be from 1-6 characters in length. Valid characters include letter, numbers, and limited symbols: underline, subtraction sign, dot, you may not use a space as a leading or ending character.

There is no limit to the number of groups or users. By default there are two different group levels: admin and user.
User management determined upon two levels: the group and the user level.
Group and user names cannot be duplicated, and each user can only belong to one group.



【Add users】Add group member information and set authorities.

Default user: admin, user and default.The password of the first two usernames is 123456. "admin" has advanced authorities. "user" only has surveillance and playback authority.

Hidden default: operate in password-less login mode, cannot delete, DVR login in this name automatically if "no user login"， user can revise limits of power then operate some without login.

Enter【Add users】to input username, password and select group and reusable options. Reusable allows the account to be used by multiple logins.

Users can only belong to one group. User rights cannot exceed group rights.

【Modify users】Modify existing group member information and authority.

【Add group】Add group and set group authorities

Set a group and authorize 60 items including control panel, shut down, live view、playback, record, record backup, PTZ control, account, system information, alarm in /out setting, system, search log, log delete, upgrade, operation authority, etc.

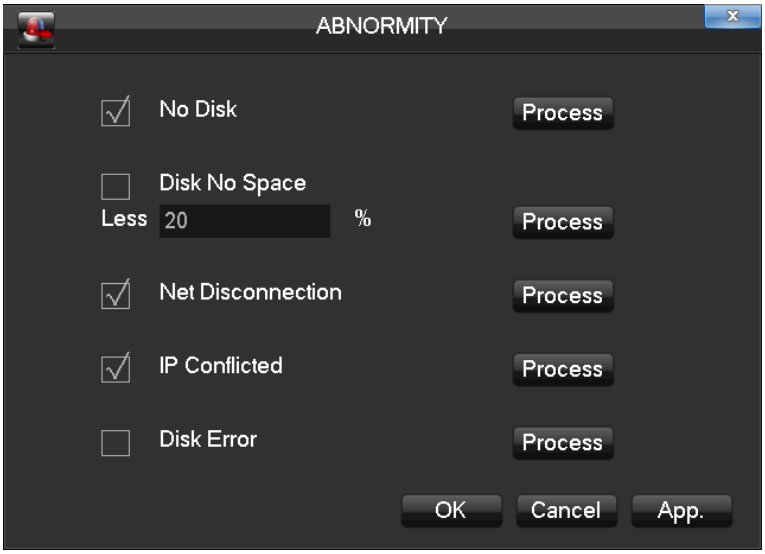
【Modify group】Modify existing groups information.

【Modify Password】Change the password.

Note: Password can be 6 characters.

The account with management authority can change others' password.

4.4.6 Abnormity

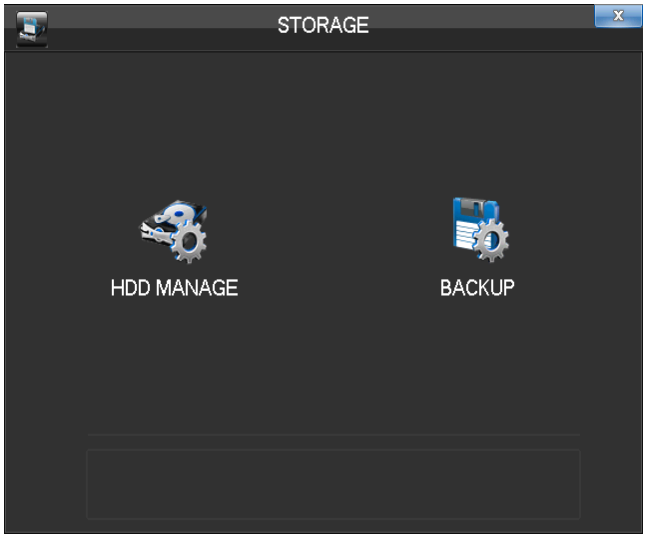


Enable 【No Disk】, 【Disk No Space】, 【Network Failure】, 【IP Conflict】and 【Disk Error】.

【No Disk】alarm when HDD is not present or it can't be detected.
【Process】You can choose【Alarm Output】, 【Display On Screen】 and 【Send Email】 and 【pushed to phone】to show abnormal events occurring.

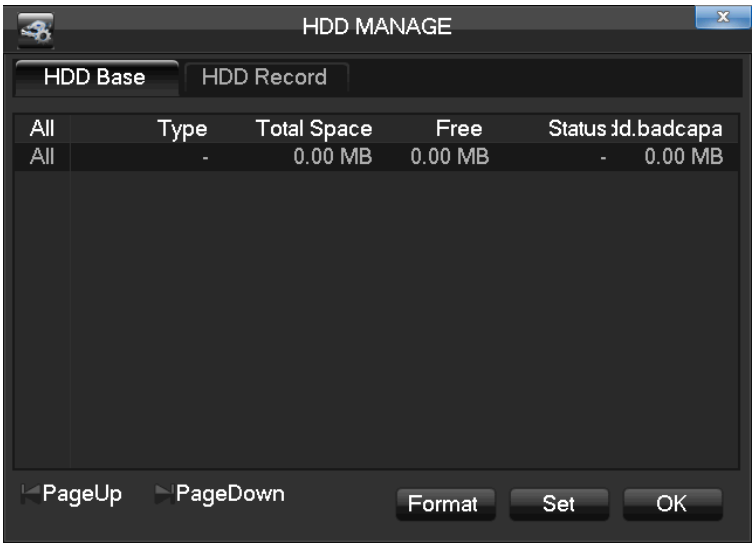
4.5 Storage

4.5.1 HDD Management



Base Configuration

"Base Configuration" as HDD management –base configuration, shows DVR storage capacity, available space and working status.

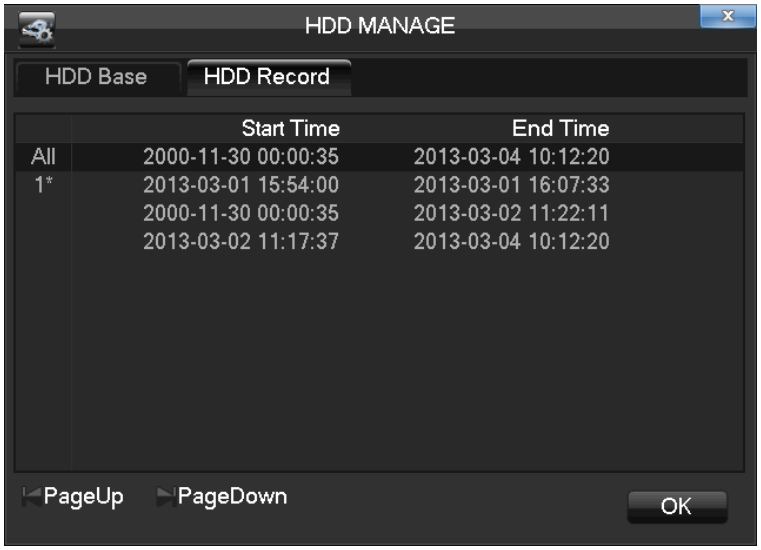


【Format】it is possible to format an individual HDD.

Note: Hard disk format operation result in the loss of video data

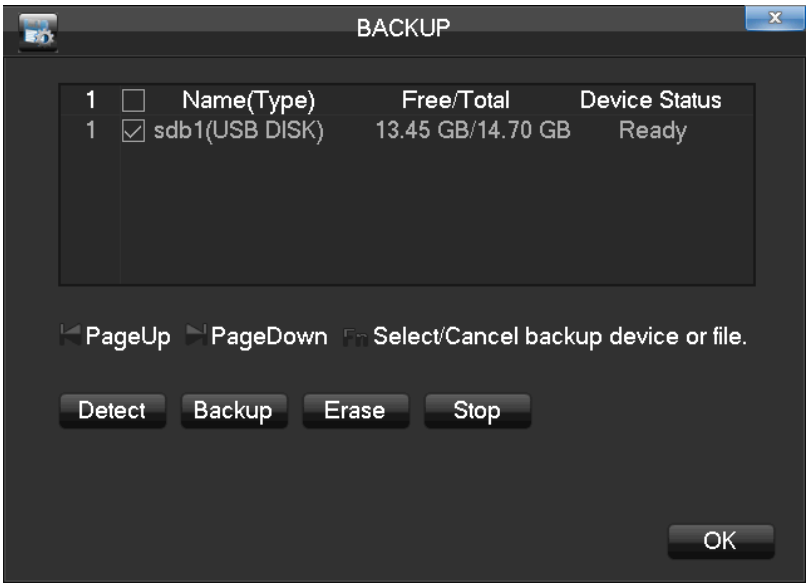
【Set】to set HDD as read-write, read only or redundancy mode. In read only mode, video data cannot be covered.

HDD Record



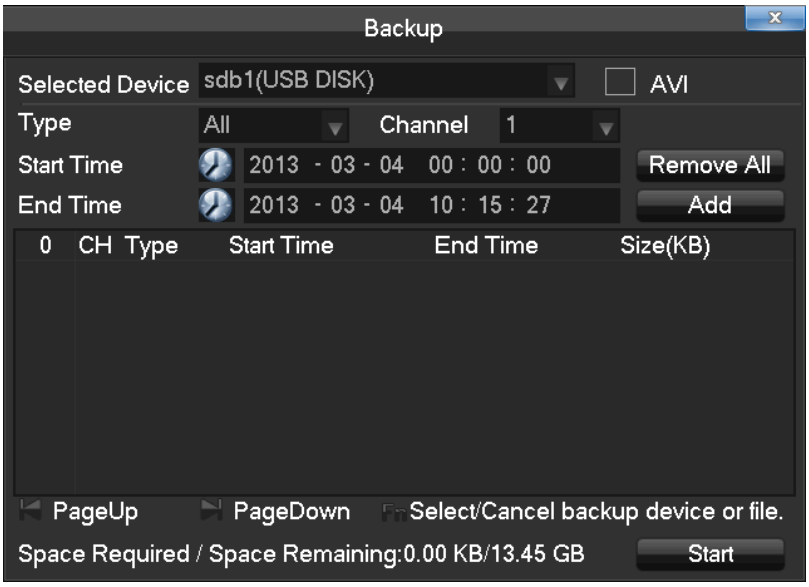
4.5.2 Backup

Connect an External USB device with the USB port to backup in the "Record Backup" menu.


BACKUP
1 Name(Type) Free/Total Device Status
1 sdb1(USB DISK) 13.45 GB/14.70 GB Ready
PageUp PageDown Select/Cancel backup device or file.
Detect Backup Erase Stop
OK

【**Detect**】Identify external USB device and display the device information.

【**Backup**】Tick the external device and click【Backup】to enter the backup menu .


Backup
Selected Device sdb1(USB DISK) AVI
Type All Channel 1
Start Time 2013 - 03 - 04 00 : 00 : 00 Remove All
End Time 2013 - 03 - 04 10 : 15 : 27 Add
0 CH Type Start Time End Time Size(KB)
PageUp PageDown Select/Cancel backup device or file.
Space Required / Space Remaining:0.00 KB/13.45 GB Start

Select the records' starting and stopping times and click【Add】to add in the list.

Click【Delete】to clear the file list.

Tick the record you want and click【Start】to backup and display time remaining.

【**Delete**】delete all data in USB backup device

⚠Note: USB backup carry player automatically

This operation probably causes loss of permanent data.

4.6 Output

The following Peripheral Management shows the peripheral management interface.

4.6.1 PTZ Configuration

Set PTZ channel, protocol, address, baud rate, etc.

Confirm the connection of PTZ A,B lines in the DVR and PTZ.

【Channel】Select the channel.

【Protocol】Select associated dome protocol (e.g. PELCOD)

【Address】Select associated dome address, default: 1（Note: this address has to correspond with dome address, or the dome wills not control.）

【Baud Rate】Select the dome baud rate and control, default is 9600.

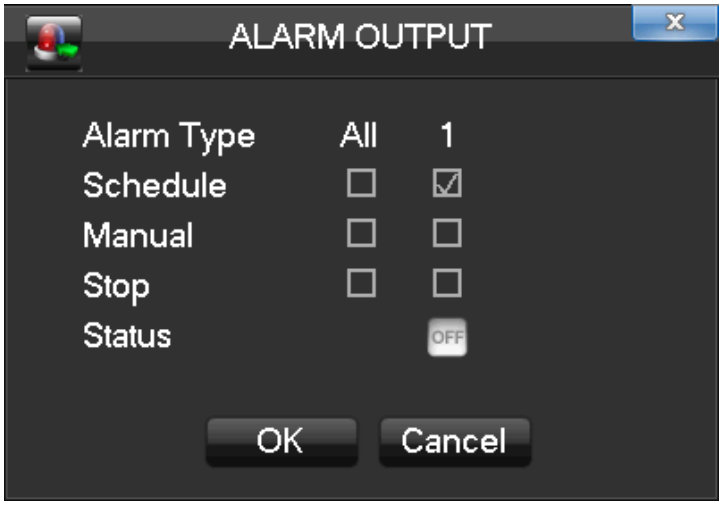
【Data Bits】Default: 8

【Stop Bits】Default: 1

【Parity】Default: None

4.6.2 Alarm Output

This menu manages alarm output parameters and displays the current state of Alarms.



【**Channels**】The number of channels that are in alarm status.

【**Schedule**】Alarm output is in control of alarm configuration.

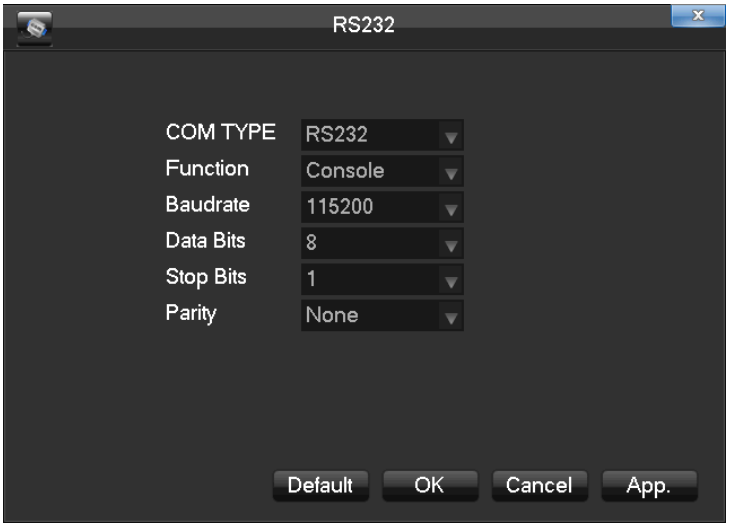
【**Manual**】Alarm output is on and the status is active.

【**Stop**】Alarm output is off and the status is inactive.

【**Status**】The current status of alarm output.

⚠ Note: Some models don't have local alarm, please refer to the products descriptions.

4.6.3 Port Configuration



【**Function**】adjust protocol

General port: upgrade and adjust by port and software;

Keyboard: keyboard connected by port;

Transparent port: transparent transmission of data;

Protocol Port: port information overlay need to set this Agreement;

Bypassed port: connect with PC to bypass parameters;
Net keyboard: keyboard connected by net port;
PTZ matrix: control PTZ matrix

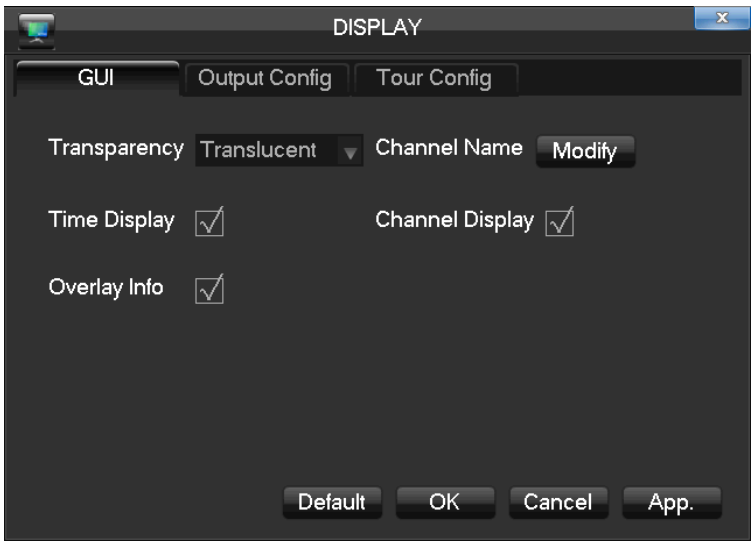
⚠ Note: Certain models don't have RS-232 port.

【**Baud Rate**】Set baud rate.
【**Data Bit**】Default: 8.
【**Stop Bit**】Default: 1.

4.6.4 Display

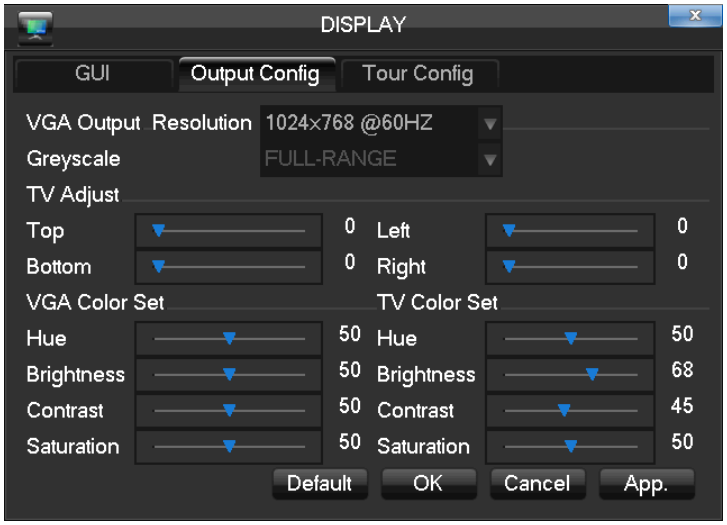
Display mode can set the unit's display and polling

GUI



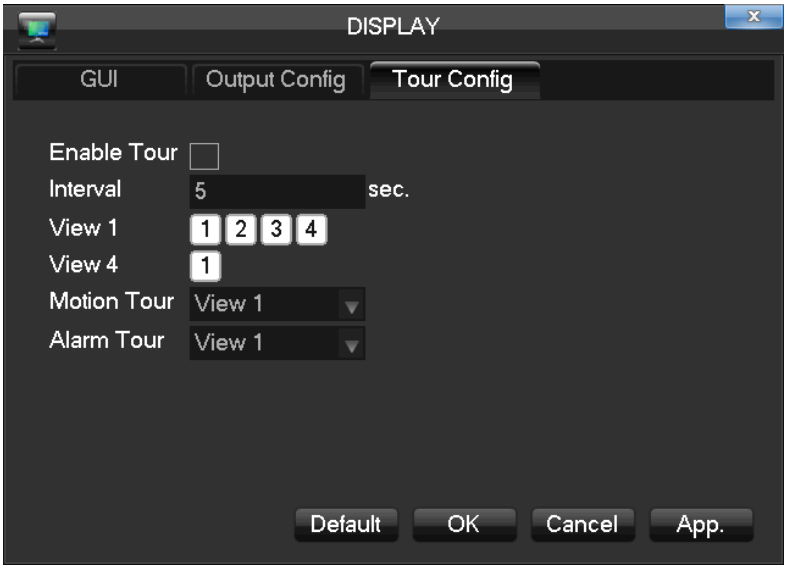
【**Transparency**】4 grades.
【**Channel Name**】Modify the channel name.
Tick 【Time Display】,【Channel Display】and【Over Info】.

Output Configure



【**VGA Output**】Select VGA resolution and refresh rate. Default is 1024×768@60Hz.
【**TV Adjust**】Adjust TV output area. Modify the image to the right size for monitor.
【**VGATV Color Set**】Adjust displayer's hue, brightness, contrast, saturation
【**TV Color Set**】Adjust monitor or TV's brightness, contrast, saturation

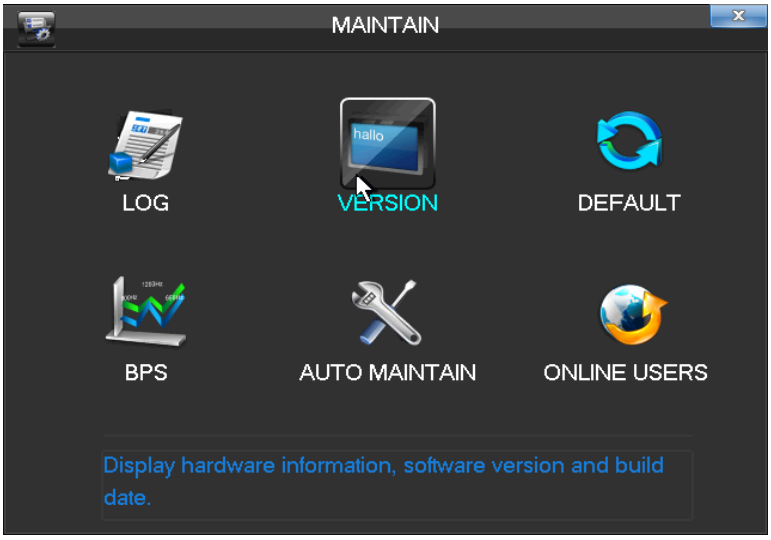
Tour configuration



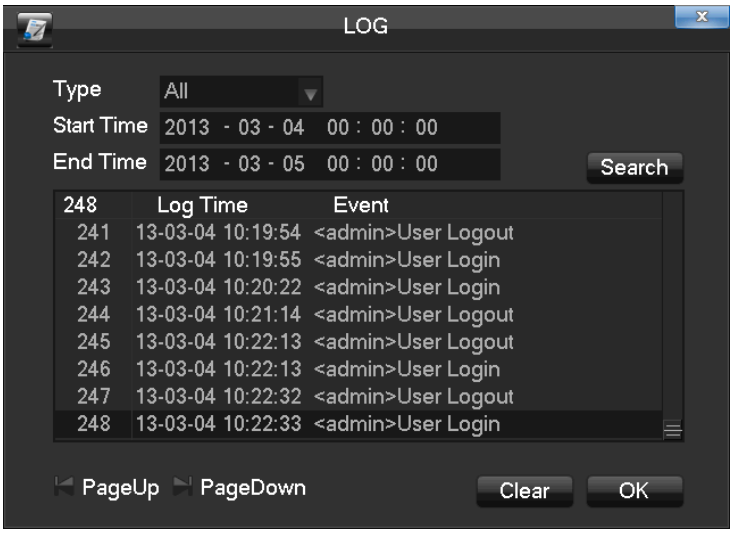
Enable touring and interval between rotations. The time is within 5-120s.The mode includes single screen, four-, eight-, nine-, sixteen-screen.
【**Motion Tour Type**】Set the motion detection tour mode.
【**Alarm Tour Type**】Set the alarm tour mode.

Note: Shortcut Setting: click the button at the top right corner of the monitoring picture or press the Shift Key to switch, you can control the tour.

4.7 Maintain



4.7.1 Log



Select the type and time press the Find, the system will display the log in tabular form, you can also click the backup button to export the log backup to your computer.

【**Type**】System operation, configuration, data management, alarm event, recording, user management, log delete and document operation can be selected. Choose time to filter the log list.

Click “delete” to delete all logs.

4.7.2 Version

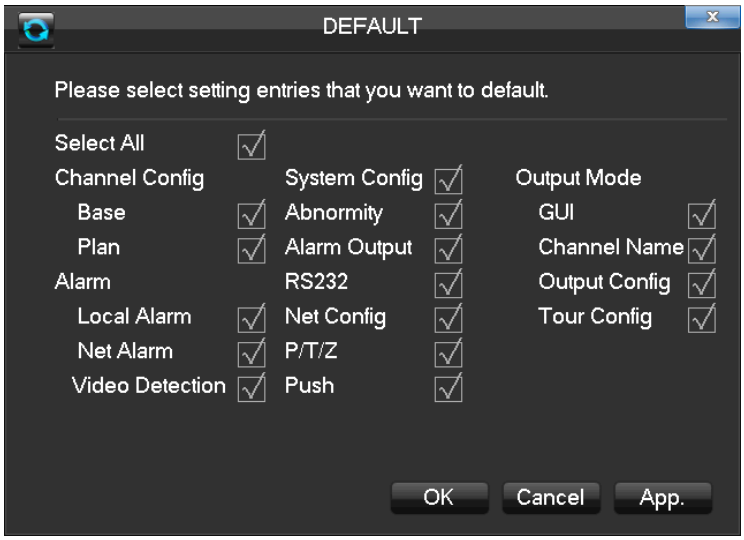
【**Version**】Show features, software version etc.

【**upgrade**】Connect a USB flash device which contains the upgrade firmware and click “Upgrade”.

Note：Update may cause the startup failure. Please operate under professional direction.

4.7.3 Default

【Default】Restoring the default settings of the following parameters.



Note：Menu transparency, language, time format, video format, IP, user ID, etc are not restored.

4.7.4 BPS

【**BPS**】Show video's size, data rate of each channel by wave form.

Note：Estimated value just for reference

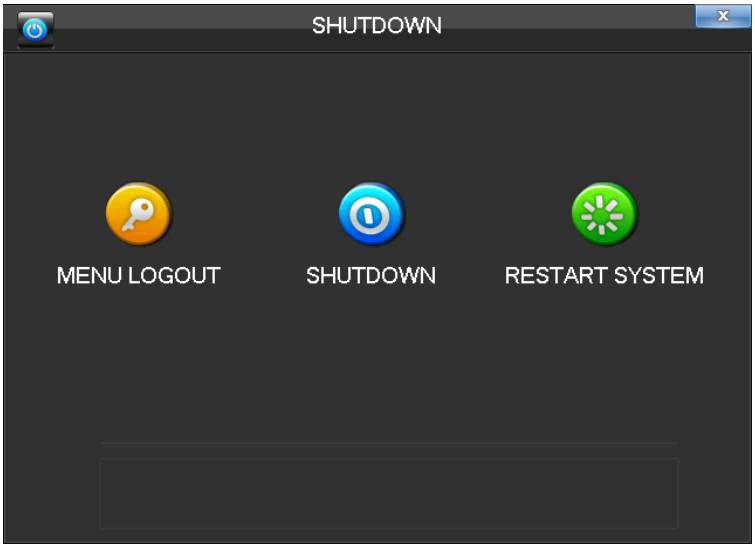
4.7.5 Auto Maintain

【**Auto Maintain**】Set auto maintenance items.

4.7.6 Online User

【**On-line Users**】Display the current online user's IP.

4.7.7 Shutdown



【**Menu Logout**】Log out of the current user.
【**Shutdown**】Shutdown the DVR
【**Restart System**】Reboot the DVR

5 Web and Client

5.1 Web Operation

5.1.1 Network Connection

H&M Series

Check network connection by LCD on front panel, "" refers connection error.

P Series

Check B-Lamp on front panel, light indicates connection.

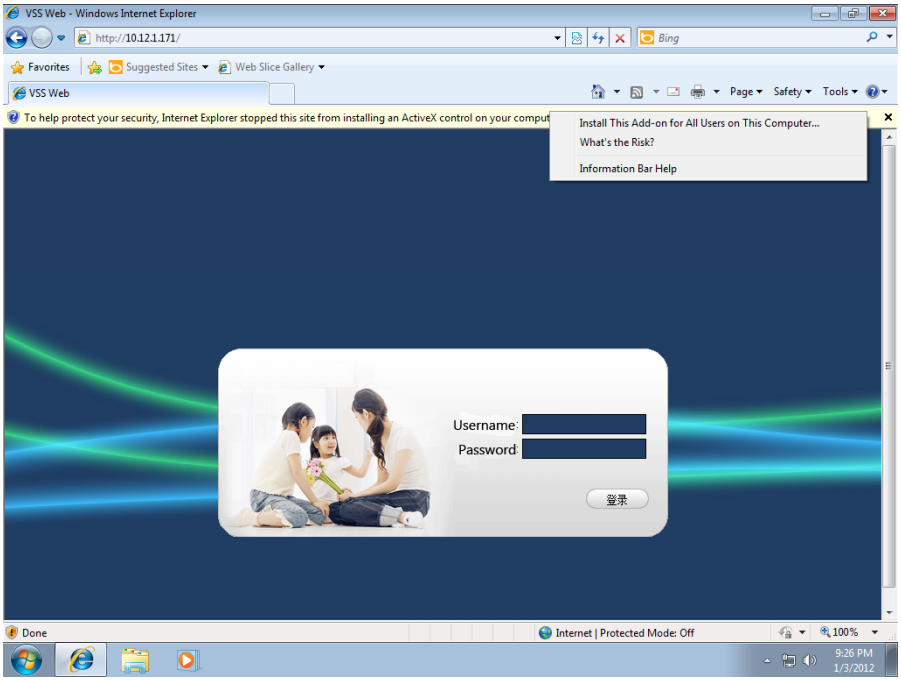
Set IP, subnet mask and gateway for computer and DVR. Please assign the same segment IP address without router, need to set the appropriate subnet mask and gateway with router.

The detail of DVR network configuration please see【Configuration】→【Network Setting】

Ensure the IP is correct and check whether the DVR is on the network by using the Windows command "ping".

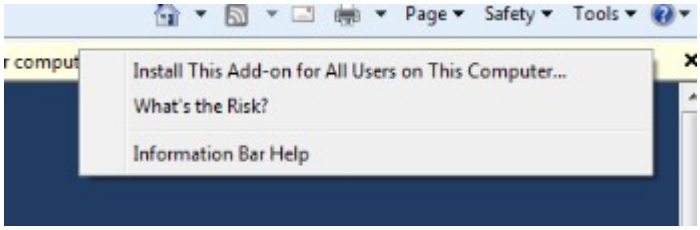
5.1.2 The control installation and the user login logout

Users can remote access to DVR by Internet Explorer, assuming you have a correct network configuration. The following interface will pop up when you access the IP address in Internet Explorer.



Login screen

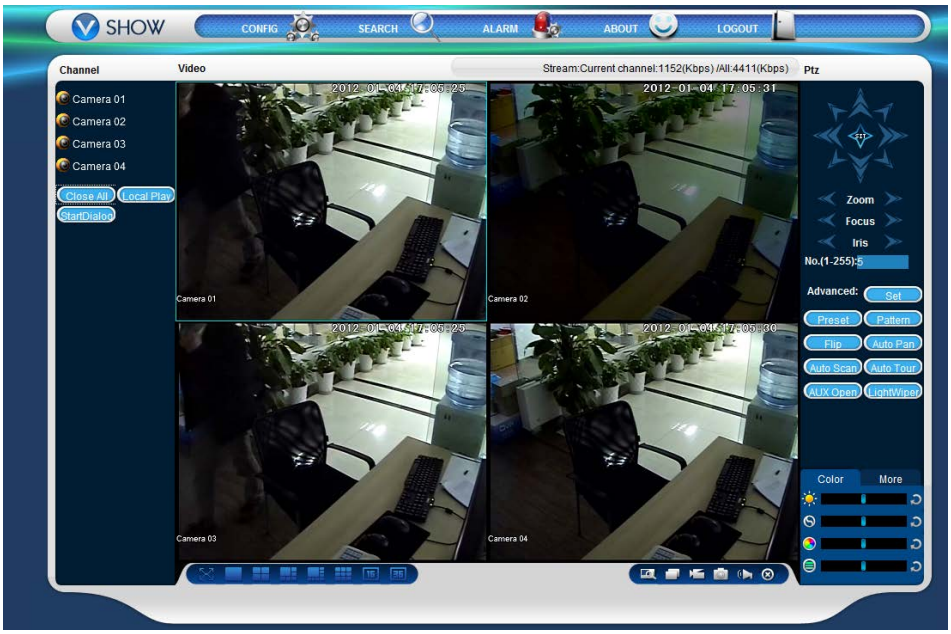
Install ActiveX: Right click and choose install. If installation is blocked by Windows, please add the IP as a trusted site or lower your Internet Explorer security settings to allow this.



Install Control

The following interface will popup when you input your username, password and click “Login”. Interface like Diagram 5-3 Web Interface when user login successfully. Click “Exit” to quit.

5.1.3 The Interface Of Web Operations



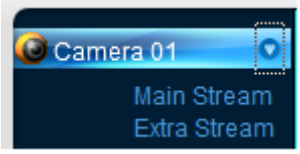
WEB Interface

Description

Index	Name	Description
1	Channel	Channel selection
2	Function key	Local playback: playback local record Open all: play live views in surveillance window
3	Surveillance window	Change window layout
4	Image color & other saturation	Image color: modify brightness, contrast and Other: set capture path, record download path and reboot
5	PTZ control	PTZ control menu
6	Menu	System configuration, record search, alarm setting, exit, etc.

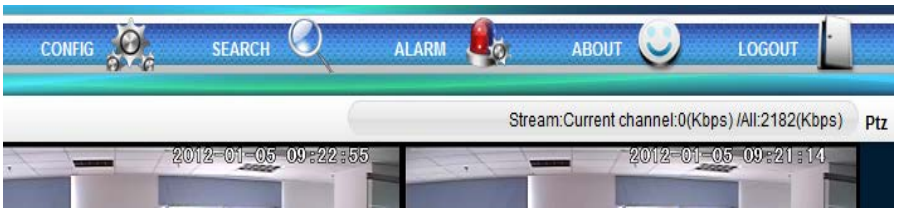
5.1.4 The Real-time Monitoring

Into the WEB interface, select the focus window in live window, the focus window has a light blue border. From the left channel column select channel, as shown in the following interface.



Channel Choices

Click on 2 area in upper right corner can choose open / close the channel of the main stream or secondary stream, shows the current DVR's IP and rate information.

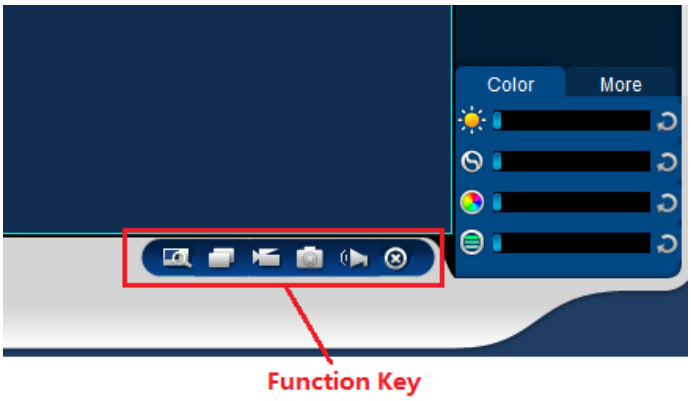


Stream information

Lower left corner shows the current video channel name.
Upper right corner shows the current video time information.

Click “ ”（Lower left corner of the display window）to switch between single screen and multi-screen.

Lower right corner of the display window is function keys, as the following interface. Refer to area zoom, switching multi screens, local records, capturing and so on.



Function Key

Area zoom: Video images can be enlarged.

Multi-screen switch: switch from single screen to multi-screen and vice versa.

Local record: save and record video to a local HDD while in a live view. Set recording path in configuration.

Capture: capture of the present channel, set the path in “other.

Sound: on/off sound.

Off video: off the focus window video.

5.1.5 PTZ Control

Set protocol（see【Setting】→【PTZ】）

Control PTZ direction, step size, zoom, IRIS, preset, tour, pattern, border scan, light, wiper, auto pan, etc.
Step size controls PTZ direction and speed, e.g. step size 8 is moved faster than step size 1.
Eight direction rotations: up, down, right, left, up-left, up-right, lower left, lower right.

PTZ control

Border scan

Operation: select the camera line scan of the left/right margin by direction button, and click the Settings button in the left /right margin position to determine the left border.

Preset

Operation: modify preset position by direction button and inputting a preset number, then click “Add” to save.

Tour

Operation: select “Tour”; Point between the first cruise line cruise input box value. And input numbers in “Path” and “preset”. Click【Add Preset】to add one preset in the cruise path, and repeat to add additional presets. Click 【Clear Preset】to delete a preset, repeat to delete more.

Pattern

Operation: Click “Pattern” in order to record an automated pattern. Then, go back to the PTZ controls in order to modify the zoom, focus and IRIS, etc. Stop recording in “Pattern” setting to save the pattern.

AUX

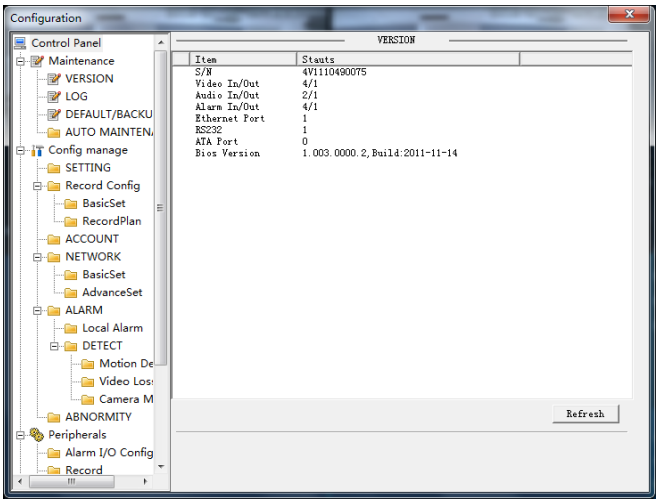
On/off one of AUX

Wiper

On/off wiper under protocol

5.1.6 Configuration

Access DVR local configuration menu by click “System Setting”, the further details please refer【Local operation guide】



Configuration

5.1.7 Search Record

Click “Search record” to open the search interface (Diagram 0-10), can search and operate record, alarm, motion, local record

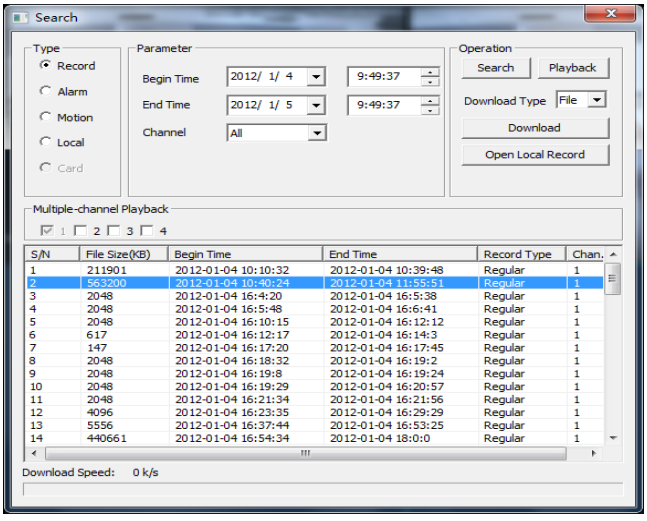
Search record

By selecting the record type, start and end times, and click the check button, get a list of files on the DVR. Select the appropriate file and download can be played

Play

Double click a search result to play in video window. Control the playing video by the control keys on the bottom. At this point, the bottom of the video window will display the video control buttons, video playback can be controlled.

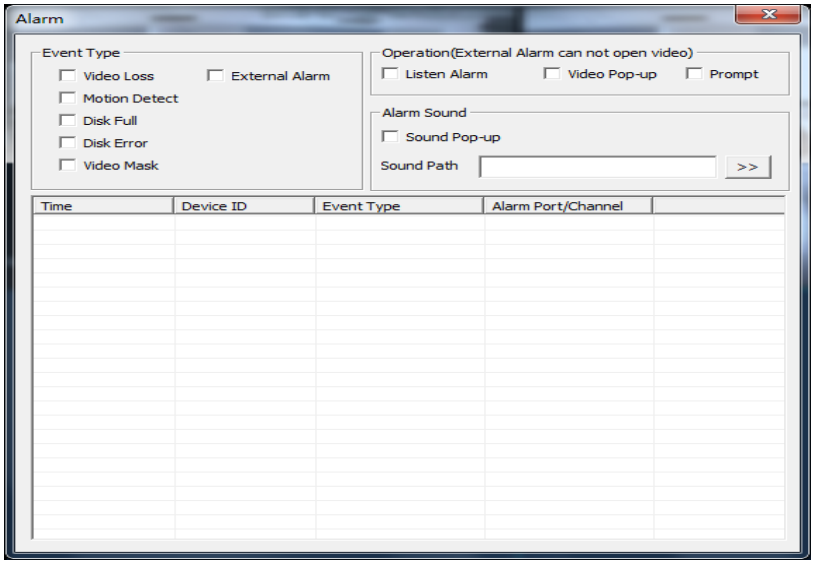
Download: select a searched video to download to local. The download speed and percentage are displayed on the bottom of the screen.



Searching

5.1.8 Alarm Configuration

Click the 【Alarm】 to enter the alarm setup menu, users can set up and operate the alarm mode.



Alarm configuration

Choose type of alarm on menu, monitor video loss, motion detection, disk full, disk error, video mask, external alarm.

Click【Video Pop-up】, open the video loss, motion detection, hard disk full, hard disk failure, video block, video encoder alarm pop-up linkage.

Click【prompt】open the prompt: When an alarm occurs in real-time monitoring will popup alarm window menu.

Click 【Sound Pop-up】, you can choose alarm tone pre-recorded on the local hard drive when an alarm occurs, tone file in WAV format.

5.1.9 About

Please refer to WEB controls related version information.

5.2 The Client Operations

Please refer to description of IMS 200.

6 Functions

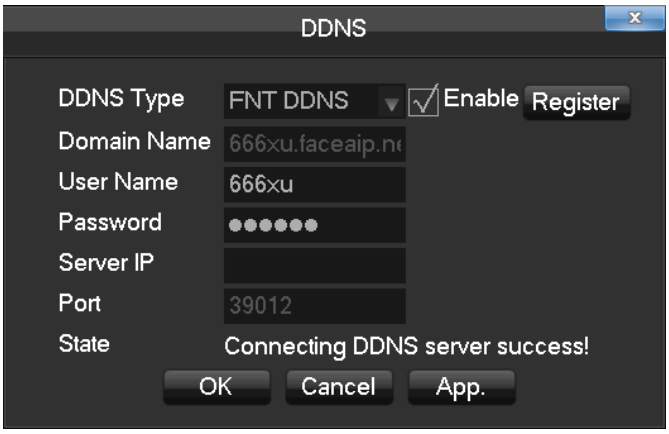
6.1 DDNS Function

6.1.1 Summary

Dynamic DNS is a kind of system which point internet domain name to variable IP. According to the rule of internet domain name, domain name must associate with the fixed IP address. Dynamic DNS provide a fixed Name server for the dynamic domain, and then guide the domain search to the IP address of dynamic user through Name server, which can make the outside user connect to the dynamic user's URL.

6.1.2 FNT DDNS

FNT DDNS is built-in professional dynamic DNS service in our network DVR. You can register directly in the device .Specific steps are as following.



1：Select FNT DDNS and check "Enable：.
2：Input a username
3：Input the password.
4：Click "Register" button. If the domain name is not registered, it will pop up a message that connect DDNS server successfully otherwise it will prompt that the registration is failed.
5：Click the "ok" button to complete the settings.

6.1.3 CN99（www.3322.org）

Register
Register New Users or Login at www.3322.org.
Click "My Control Panel" at the navigation bar.
Click the left side, "new" under the DDNS.
Fill in the name of the host machine, IP address will automatically detect in the current internet. Leave the Mail Servers blank, and then click the "OK" button.

Embedded DVR Setting

Open 【Main Menu】→【Configuration】→【Network】→【Advanced】→【DDNS】→Enable

Name	Configuration
DDNS	CN99 DDNS
IP	Members.3322.org
Port	80
Domain name	xxx.3322.org
Username	xxx
Password	xxxxxx

After setting up the information as above, you can access the Embedded DVR via XXX.3322.org

6.1.4 NO-IP（www.no-ip.com）

Register

Register new username at no-ip, click 【Create Account】.

Create domain name, click 【Add a Host】.

Embedded DVR Setting

Open 【Main Menu】→【Management】→【Network】→【Advanced】→【DDNS】→【Enable】

Name	Configuration
DDNS	NO-IP DDNS
IP	dynupdate.no-ip.com
Port	80
Domain name	xxx.xxx.org
Username	xxx
Password	xxxxxx

6.1.5 Dyndns DDNS（www.dyndns.com）

Register

To login at dyndns, register an account.

Click on the confirmation link, login the account, click 【Add Host Services】 at [My Services], set your own realm name, and then operate according to the procedure.

Configure the Embedded DVR

Open 【Main Menu】→【Management】→【Network】→【Advanced】→【DDNS】→【Enable】

Name	Configuration
DDNS	Dyndns DDNS
IP	Members.dyndns.org
Port	80
Domain name	xxx.xxx.com
Username	xxx
Password	xxxxxx

6.1.6 Test and verify DDNS

After setting the Embedded DVR, wait for a few minutes, analysis records will update. Click Operation in the Menu of computer, input “cmd”, click “OK” to open a window. As the Diagram 0-1 Run Command Line Program shows.

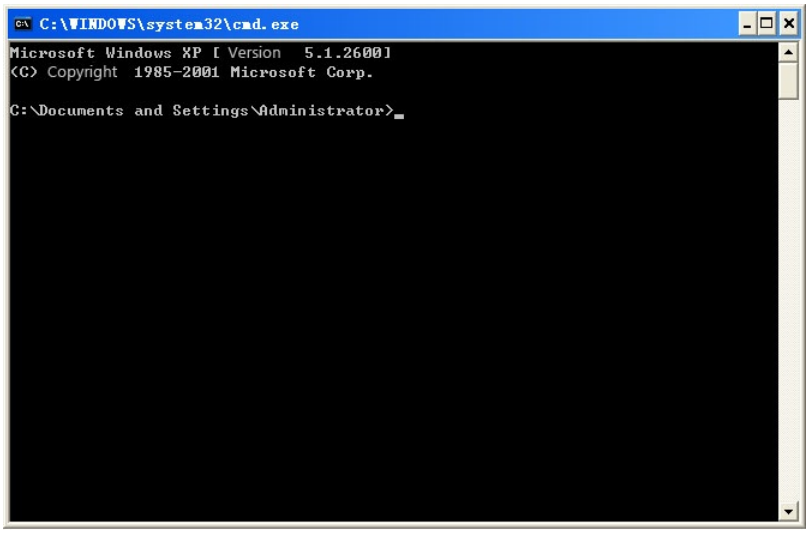


Diagram 0-1 Run Command Line Program

Input “ping+ Domain name” then presses Enter, as the Diagram 0-2 DNS shows.

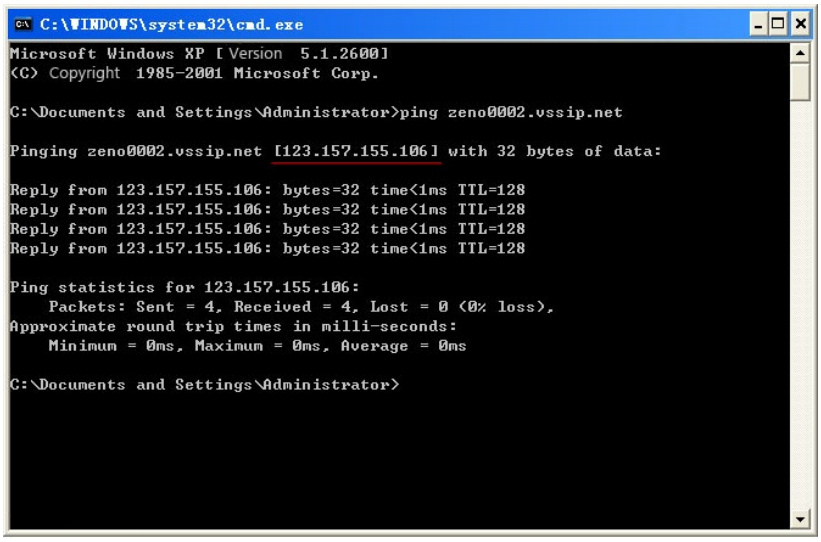

C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
C:\Documents and Settings\Administrator>ping zeno0002.vssip.net
Pinging zeno0002.vssip.net [123.157.155.106] with 32 bytes of data:
Reply from 123.157.155.106: bytes=32 time<1ms TTL=128
Reply from 123.157.155.106: bytes=32 time<1ms TTL=128
Reply from 123.157.155.106: bytes=32 time<1ms TTL=128
Reply from 123.157.155.106: bytes=32 time<1ms TTL=128
Ping statistics for 123.157.155.106:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\Documents and Settings\Administrator>

Diagram 0-1 DNS

The computer will analyze the domain name which is set in the DVR and return to the current IP, as the picture shows underlined in red. When the IP correspond to the embedded DVR’s IP in Public internet, it means the DDNS is setting right. If they are not, please check the network connection of embedded DVR and DDNS information.

6.2 Port Mapping

Port mapping is mapping a port of outside web host’s IP address to a machine inside web, and provide the service. When user connects to the port of the IP, the server will automatically map the request to the

corresponding machine inside LAN. With this function, we can map many ports of a machine's IP address to different machines' different ports inside web. The port mapping can also have other special agent functions, like POP, SMTP, Telnet and so on. Theoretically, it can provide more than sixty thousand ports. For example, if we want to map a web server which has an IP address of 192.168.111.10, we just need to input the IP address and TCP port 80 into the port mapping chart of the router. There are two ways to map the port: UPnP function automatically map and modify the router's port mapping chart by manual.

6.2.1 UPNP Function

In order to get connection to the Embedded DVR through Public network, we need to set the Router to cross the NAT of Embedded DVR. UPnP can make the NAT cross automatically by the UPnP agreement of Embedded DVR, and don't have to set the Router.

Note: to realize the UPnP Function, there must be Router support and enable the UPnP Function.

The first step

Connect the Router to the network, get to the Menu of the Router, set the Router, and enable the UPnP Function.

Routers made by different manufacturers may have some difference, please refer to the specification carefully before setting the Router.

The second step

Connect the Embedded DVR to the Router; the configuration will automatically gain the IP address or static IP. After setting up the IP, click the Advanced. And get to the XXX, ports and multicast etc. choose to open the Enable at the 【UPnP port mapping】

The third step

Enter into the Router management interface; detect the port if there is already a Port mapping. If there is, it shows UPnP setting's finished.

The forth step

Input the IP address in IE, and add port number of the Embedded DVR, for example: 155.157.12.227:81. If you want to enter by the Client Software, use the TCP port offered by the outer net.

Note: if there are a few embedded DVRs need to set the UPnP function, in order to avoid IP conflict, set the ports of embedded DVR into different ports numbers. Otherwise, it will choose the embedded DVR port set preceded as the first choice.

6.2.2 Manual port mapping

The first step

Connect the Embedded DVR to the Router, set the static IP.

The second step

Log in Router, enter into the configuration menu of Router, and set the menu. Then get to port, set the IP distributed by the Embedded DVR, and set the rule of port mapping, add HTTP and TCP port into mapping list.

Default access ports of Embedded DVR include HTTP port 80 and TCP port 8000, if the ports are occupied by other devices, please modify the default port of the Embedded DVR into other vacant ports.

The third step

Input the public net IP address in the IE, and add the port number of the Embedded DVR you want to access after the IP, for example: http://155.157.12.227:81. If you want to access by Client Software, you can use the outer net TCP port directly.

⚠ Notice: for detail configuration setting, please refer to the user manual of Router.

6.3 NTP function

Enable NTP function; make the time synchronization with both the DVR and GPS clock server, to ensure the accuracy of device time.

6.3.1 Internet configuration

Get to the 【CONFIGURATION】→【NETWORK】, choose 【Advanced】, and then choose 【NTP】 to set.

After the device can access the Internet, NTP server can use the standard NTP server as the time. For example, the server of China's national research center (IP address: 210.72.145.44). Input the IP address and domain name of relative server at NTP setting.

Activate NTP, click to choose "Enable".

The interval of changing time is from 1 to 65535 minutes.

6.3.2 Intranet Configuration

If DVR work under the intranet, users can set up a privately-owned server as clock source.NTP address in DVR configuration fill in privately-owned NTP address can work.

Privately-owned NTP server can adopt standard NTP products and accurate time PC system. Please refer to below instruction when adopt PC system as a NTP server.

NTP Server Set Up under Windows

"Start" menu → "Run"(or Win+R), input "regedit" to get into REGEDIT.

Build a new key assignment of DWORD Value below.

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\Parameters registry sub key;

Change the value to 1, and save.

Restart the computer.

NTP server set up under Linux system

Due to the particularity of Linux system, for detail way to erect the NTP server, please refer to every editions of the manual.

6.4 PTZ

In live screen, right click and select 【PTZ Control】 on control channel, as shown in Diagram 0-3 PTZ control.

6.4.1 PTZ Control

From PTZ control menu, set direction step length, zoom, focus, iris, advanced features, auxiliary features, camera settings.

PTZ control

Step size ： Controls PTZ direction and speed, e.g. step size 8 is moved faster than step size 1. (Range 1-8, 8 is max value)

Click and of zoom, focus and IRIS to modify zoom, focus and brightness.

Eight direction rotations: up, down, right, left, up-left, upright, lower left, lower right.(Front panel just 4 direction)

Quick location: <SIT>in the middle of the direction arrows, make sure the protocol support this function, only mouse control. Click any point, PTZ will turn to it and move it to the centre of screen

Mouse drag on quick location page, support 4 ~ 16 times variation, drag from top left to bottom right to zoom in box , drag from bottom right to top left for zoom out box .

【**Preset**】Input the wanted preset number which has been recorded. Then click the preset button to call the function.

【**Tour**】Input the tour number and click “tour” to run it or stop tour by “stop” button.

Preset

Click “ ” to switch to the interface of preset. Direction button to Rotate the camera to the desired position by the direction button. Then choose Preset and input a preset value in the preset input box. Click [increase preset] to save. Input the desired preset value in the preset input box and click [delete preset] button to delete.

Pattern

You can begin the desired path or end a path by inputting the figure in the box.

6.5 Voice Intercom

6.5.1 Summarize

Embedded DVR Bidirectional Talk: user can talk to remote client software or Web via DVR audio input and output ports; user can listen voice from Client Software and WEB via DVR audio output ports.

Two types of bidirectional talk ---- sharing and standalone ----for different models, exact info please refer to specifications.

6.5.2 Configuration

Local configuration

Connect a microphone to the MIC input port, connect loudspeaker to the audio output port.

If no standalone MIC input port, please connect microphone to the number 1 audio input port

Note: local output needs active audio output device.

Remote PC Configuration

Connect microphone and loudspeaker to computer.

Enable bidirectional talk in IMS software or WEB.

6.6 HDD Redundancy

HDD redundancy function can backup the recording file, user can retrieve files by HDD redundancy if single HDD damaged, by which improve the system's safety.

Hard disk redundancy function is through the designated channel data double backup in HDD, so DVR need a standalone HDD for redundancy function.

HDD redundancy configuration

Open main menu enter into the storage configuration, choose one HDD as the redundancy HDD, click setting.

Redundancy HDD must be an independent HDD, user can set several HDDs as a redundancy HDD group. Once a HDD is assigned as redundancy HDD, the recording data can be saved in both normal HDD and redundancy HDD.

Data on redundancy HDD should be automatically cycle coverage, cycle period depends on the recording data and redundant HDD's capacity.

Note: Make sure 2pcs HDD at least in DVR, one for read and write, another for redundancy.

Channel redundancy configuration

User can choose part channels or all channels to set redundancy backup. Please get to 【Configuration】→【Record】, choose redundancy channel, check mark 【Redundancy】.

Note: the data in channel turn off redundancy only is recorded in normal reading and writing HDD if the redundancy is not enabled.

Retrieve HDD redundancy

User can retrieve backup recording data from redundancy HDD when RW HDD damage or data lost. Firstly, shut down DVR and remove damaged HDD, then restart DVR;

Secondly, Get into 【Main menu】→【Storage】, set redundancy HDD as a reading and writing HDD, then it can be searched.

6.7 HDD S.M.A.R.T

S.M.A.R.T: "Self-Monitoring, Analysis and Reporting Technology"

S.M.A.R.T HDD can analysis head, disc, motor, circuit operation, history and default security values via monitor instruction in HDD and surveillance software in host. Alarm will be sent to user automatically when the value is outside the scope of the security situation.

Detection parameters of Seagate HDD for example are divided into seven: ID detection code, Attribute Description, Threshold, Attribute Value, Worst, Date, and Status.

1、ID detection code

ID detection code is not the only; manufacturer can use different ID code or increase or decrease its quantity according to the detected parameter's quantity.

For example: the ID detection code of WEASTERN DIGITAL's product is "04", parameter is Start/Stop Count, but the parameter of same code in Fujitsu's product is "Number of times the spindle motor is activated".

2、Attribute Description

Attribute Description: name of detection item. Manufacturer can increase or decrease。As ATA standard update constantly, sometimes different models in same brand maybe different ,but must ensure major test items specified in S.M.A.R.T .(although different manufacturers have specific naming convention ,the essence of monitoring is the same.)

1 Read Error Rate
2 Spin up Time
4 Start/Stop Count
5 Relocated Sector Count
7 Seek Error Rate

9 Power-on Hours Count
10 Spin up Retry Count
194 Power temperatures
195 ECC on the Fly count
197 Current Pending Sector Count
198 Disconnection beyond repair
199 CRC cyclic redundancy check
200 Write Error Count

Note: Different manufacturers and different models have different attribute description , the user has no need to know exact meaning ,attribute detection values enough for them.

3、Threshold

It is specified by manufacturer calculated through a specific formula. If there is a attribute value lower than the threshold, which means HDD become unreliable and data stored is very easy to lose. Composition and size of reliable attribute values is different for different HDD. It should be noted that, ATA standard only provides some SMART parameters; it does not provide a specific value. "Threshold" value is determined by manufacturers based on products' features. Thus, results tested by manufacturer provided detection software is very different from testing software under Windows (such as AIDA32)

4、Attribute Value

Attribute value is the maximum normal value; the general range is from 1 to 253. Typically, the maximum attribute value is 100 (for IBM, Quantum, and Fujitsu) or 253 (for Samsung). Of course, there are some exceptions, for example, some models produced by Western Digital have two different attribute values, and property value is set 200 when initial production, but after then it is changed into 100.

5、 Worst

Worst value is the largest non-normal value in HDD's running. It is a value calculate for HDD's cumulative running, it is constantly refreshed according to running cycle, and very closed to the threshold. Whether the HDD is normal by S.M.A.R.T analysis is based on the comparison with threshold. The maximum value appear when new HDD start to use, which would continue to decrease with the everyday use or error happen. Consequently, larger attribute values mean better quality and higher reliability; smaller values mean more possibility of failure increases.

6 、Dates

Actual values of HDD's detection items, many items are cumulative values.

7、Status

It is current statues of HDD's every attribute after analyzing and comparing above attribute values by S.M.A.R.T, also is important information to judge HDD healthy or not.

There are three statuses: Normal, Alarm and Error----which is closely related with Pre-failure/advisory BIT.

7 Appendix

7.1 Terms

Dual-stream

Dual-stream: one high bit rate stream for the local HD store, QCIF/CIF/2CIF/DCIF/4CIF coding, other low bit rate stream for network transmission, such as QCIF / CIF coding,

I Frame

I frame: intra frame image, remove redundant information to compress the transmittal data, also called key frames.

B Frame

B frame: According to time redundant of the source image sequence previously encoded frame and account the source image after the encoded frame to compress transmittal data, also known as bi-directional prediction frame.

P Frame

P-frame: according to image frame lower than the previous ’time redundant to compress transmittal data, also called predicted frames.

Wide Dynamic

Bright parts and dark parts in particular can be seen very clearly at the same time. Wide dynamic range is a ratio between the brightest luminance signal value and the darkest value.

S. M. A. R. T

SMART (Self Monitoring, Analysis and Reporting Technology): now widely used in hard disk data security technology, monitoring system analysis Motor, circuit, HDD and disk head when HDD working, warn when abnormality, sometimes will automatically slow down and back up data.

CVBS

Composite Video Broadcast Signal, consists of luminance and color signal from the composite baseband signal.

BNC

Coaxial cable connector, composite video signals or audio signals, commonly use 75 ohm connectors. BNC welding and should pay attention to weld strength and remove burrs, or the signal wire and shield’s contact will lead to a substantial attenuation of signal strength

7.2 HDD Capacity Calculation

7.2.1 Reference of HDD Capacity Calculation

The first time install DVR, please check if the HDD has installed.

The capacity of the HDD

There is no limitation of capacity of single HDD to DVR, please choose the HDD according to the videos’ saving time.

The choose of the Capacity

Computational formula of HDD Capacity:

Whole HDD Capacity = number of the channels × time in need (hour) × spent of HDD Capacity per hour

(MB/hour)

Similarly we can have the formula of recording time:

$$\text{Recording}time\ (hour) = \frac{TotalHDDCapacity\ (\text{MB})}{CapacityOccupationperHour\ (\text{MB}/hr) \times AmountofChannel}$$

⚠ Note: 1GB=1000MB, not 1GiB=1024MiB, so HDD capacity shown in Base Configuration under HDD Management less than real marked.

File size per hour (CBR).

Record file size

Bit Rate	File	Bit Rate	File	Bit Rate	File
96k	42M	320k	140M	896k	393M
128k	56M	384k	168M	1.00M	450M
160k	70M	448k	196M	1.25M	562M
192k	84M	512k	225M	1.50M	675M
224k	98M	640k	281M	1.75M	787M
256k	112M	768k	337M	2.00M	900M

File size is more unpredictable when VBR style, please refer to the real size of recording file.

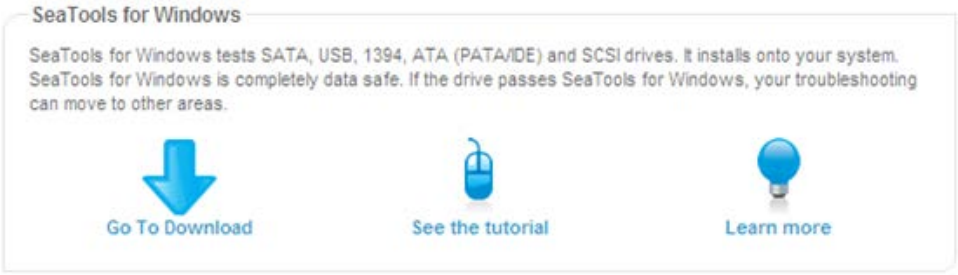
7.2.2 Hard disk problem

Use Detection Tool provided by the HDD manufacturer to detect the Function of HDD to solve data problem.

We recommend Seagate and Western Digital.

How to detect Seagate HDD

Get into www.seagate.com,Click Support & Downloads □choose Sea Tools, download tool).


SeaTools for Windows
SeaTools for Windows tests SATA, USB, 1394, ATA (PATA/IDE) and SCSI drives. It installs onto your system.
SeaTools for Windows is completely data safe. If the drive passes SeaTools for Windows, your troubleshooting can move to other areas.
Go To Download
See the tutorial
Learn more

Seagate download

Double-click to install downloaded file, click installed file to detect the HDD information on PC.

Choose the HDD for detection (other manufacturer's hard disk suitable too) .

How to detect WDC HDD

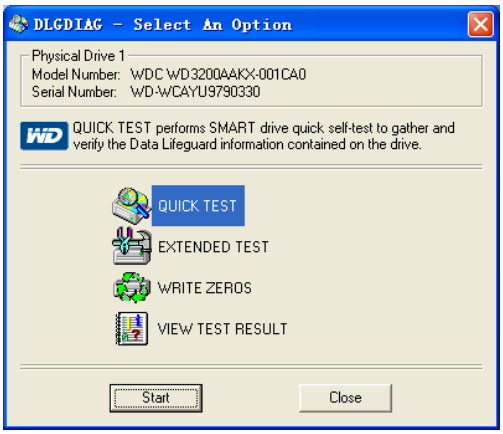
Get into www.wdc.com , choose WD support / download / SATA&SAS / WD Caviar / GP.

WD Support / Downloads / SATA & SAS / WD Caviar Green / GP
Downloads
WD Caviar Green / GP
SATA & SAS
Installation
Downloads
Knowledge Base
Discussions
Available Downloads
Acronis True Image WD Edition
Advanced Format Software
(Only for Windows XP users with WD Advanced Format Drives)
Data Lifeguard Diagnostic for DOS
Data Lifeguard Diagnostic for DOS (CD)
Data Lifeguard Diagnostic for Windows

WD Download

Click Icon to hard disk detection after downloading.

Double click hard desk in device list.


DLGDIAG - Select An Option
Physical Drive 1
Model Number: WDC WD3200AAKX-001CA0
Serial Number: WD-WCAYU9790330
QUICK TEST performs SMART drive quick self-test to gather and verify the Data Lifeguard information contained on the drive.
QUICK TEST
EXTENDED TEST
WRITE ZEROS
VIEW TEST RESULT
Start
Close

WD Detection

7.3 Common Faults

DVR startup failure or continuously reboot

Possible reasons:

1. The system has been damaged from a bad DVR update.
2. There is a problem with the DVR main board error, please contact supplier.
3. There is an HDD error. Replace faulty HDD.

Remote control does not work

Possible reasons:

1. Check for batteries in remote control, especially “Positive” and “Negative”.
2. Check for batteries’ power.
3. Check if remote receiver is obscured.
3 Check if DVR address is corresponding to the remote control address.

DVR cannot control PTZ

Possible reasons:

1. RS-485 cable connection error, A, B ports are inversely connected;

2. PTZ decoder, protocol, baud rate, address are incorrect;
3. Parallel connect a 120Ω resistance to resolve signal reflex caused by too many PTZs on the line.
4. The RS-485 port in DVR is defective.

Blurred screen in preview mode

Possible reasons:

Please make sure your cameras match your video format selected in the General menu.

E.g. camera is NTSC standard but the DVR is PAL standard, the preview would be blurred.

Blurred screen in playback mode or failure to playback records

Possible reasons:

1. Procedure error, reboot the DVR
2. HDD error, test or change out the HDD
3. DVR hardware failure, contact your local supplier

When you can't connect DVR through network

Possible reasons:

1. Check the physical network connection is correct.
2. Check the DVR network configuration parameters.
3. Check whether IP conflicts exist in network.

Download recording can not be played

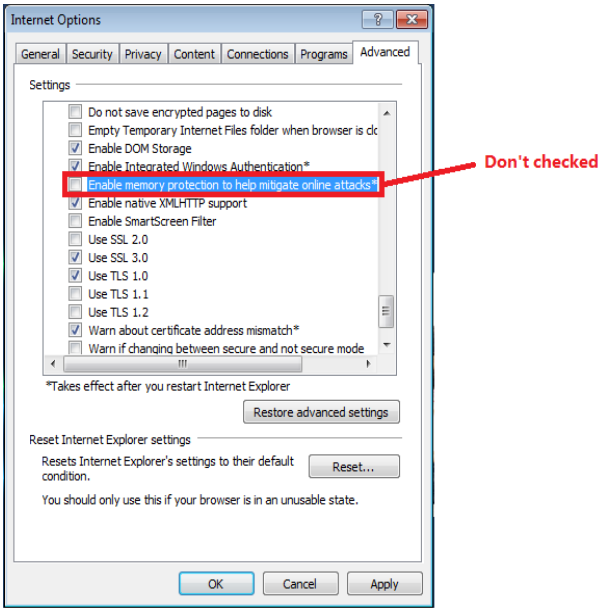
Possible reasons:

1. Player installation error.
2. The USB or HDD device has an error.
3. Do not install graphic software later than DX8.1.

Internet Explore Crash

Possible reasons:

Close IE explore, enter into the tool bar



IE tool bar

Visit under Internet Explorer 9.0

Possible reasons:

Internet Explore9.0 above version visit: Please choose compatible mode.